April 1, 2022

Ms. Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification New Cingular Wireless PCS LLC ("AT&T") Site CT5100
220 Evergreen Street, Bridgeport, CT 06606 (the "Property")
Latitude: 41.197778 N Longitude: 73.190692 W

Dear Ms. Bachman:

AT&T currently maintains (12) antennas at the 130' level on the existing 135' monopole tower ("Tower") at 220 Evergreen Street, Bridgeport, CT. The Tower is owned by American Tower Corporation and the property is owned by Chapin & Bangs. AT&T intends to modify its facility by replacing (9) antennas with (3) AIR6419 N77G antennas at the 128' level, (3) QD8616-7 at the 130' level, and (3) AIR6449 N77D antennas at the 132' level of the tower. The AIR6419 N77G & AIR6649 N77D antennas are stacked one on top of the other. The height of AT&Ts existing antennas is 130' and the proposed antennas is 128', 130' and 132' level on the Tower.

This modification includes B2, B5, and B12 hardware that is both 4G (LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

The AT&T facility received CT Siting Council ("Council") approval in Docket 464 on April 14, 2016. The approval contained no conditions that could feasibly be violated by this modification, including facility height or mounting restrictions. AT&Ts modification complies with the above-mentioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies ("R.C.S.A") §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with to R.C.S.A §16-50j-73, a copy of this letter is being sent to the Honorable Joseph P. Ganim, Mayor, City of Bridgeport, as elected official, Mr. Thomas F. Gil, Director of Planning & Economic Development, City of Bridgeport, Chapin & Bangs, the property owner and American Tower Corporation, the tower owner.

The planned modification of the facility falls squarely within those activities explicitly provided for in R.C.S.A §16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require an extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and foundation can support the proposed loading.

For the foregoing reasons, AT&T respectfully submits the proposed modifications to the above referenced telecommunication facility constitute an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2).

Sincerely,

Hollis M. Redding

Hollis M. Redding
SAI Communications, LLC
12 Industrial Way
Salem, NH 03079
Mobile: 860-834-6964
hredding@saigrp.com

Enclosures

Cc: Honorable Joseph P. Ganim, Mayor, City of Bridgeport, elected official
Thomas F. Gil, Director of Planning & Economic Development, City of Bridgeport
Chapin & Bangs, property owner
American Tower Corp, tower owner

C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
603-644-2800
support@csquaredsystems.com

Calculated Radio Frequency Exposure

CT5100

220 Evergreen Street, Bridgeport, CT

March 29, 2022

Table of Contents

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List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of the AT&T antenna arrays on an existing tower located at 220 Evergreen Street in Bridgeport CT. The coordinates of the proposed tower are 41° 11' 52.00" N, 73° 11' 26.49" W.

AT&T is proposing the following:

1) Install twelve (12) multi-band antennas (four (4) per sector) to support its commercial LTE network and the FirstNet National Public Safety Broadband Network ("NPSBN").

This report considers the planned antenna configuration for AT&T[1] to derive the resulting % Maximum Permissible Exposure of its proposed installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

[1] As referenced to AT&T's Radio Frequency Design Sheet dated 12/30/2021.

3. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65, and Connecticut Siting Council recommendations:

$$\text{Power Density} = \left(\frac{1.6^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2}\right) \text{X Off Beam Loss}$$

Where:

ERP = Effective Radiated Power

R = Radial Distance = $\sqrt{\left(H^2 + V^2\right)}$

H = Horizontal Distance from antenna

V = Vertical Distance from radiation center of antenna

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not consider actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Calculation Results

Table 1 below outlines the cumulative power density information for the AT&T modification on the existing tower at the site. The proposed antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	% MPE
T-Mobile	110	1900	2	2057	0.1368	1.0000	1.37%
T-Mobile	110	2100	2	2308	0.1535	1.0000	1.53%
T-Mobile	110	600	2	592	0.0394	0.4000	0.98%
T-Mobile	110	600	1	1578	0.0525	0.4000	1.31%
T-Mobile	110	700	2	649	0.0432	0.4667	0.92%
T-Mobile	110	1900	2	2204	0.1466	1.0000	1.47%
T-Mobile	110	2100	2	1295	0.0861	1.0000	0.86%
T-Mobile	110	2500	2	6413	0.4265	1.0000	4.26%
T-Mobile	110	2500	2	6413	0.4265	1.0000	4.26%
Sprint	120	865	1	350	0.0097	0.5767	0.17%
Sprint	120	1900	5	622	0.0861	1.0000	0.86%
Sprint	120	865	1	1750	0.0484	0.5767	0.84%
Sprint	120	1900	1	3112	0.0861	1.0000	0.86%
Sprint	120	2500	1	6225	0.1723	1.0000	1.72%
Sprint	120	5800	1	2.5	0.0001	1.0000	0.00%
Sprint	120	18000	4	16.2	0.0018	1.0000	0.02%
Sprint	120	18000	2	40.7	0.0023	1.0000	0.02%
AT&T	130	739	1	3156	0.0074	0.4927	1.50%
AT&T	130	763	1	3229	0.0076	0.5087	1.49%
AT&T	130	885	1	3883	0.0091	0.5900	1.54%
AT&T	130	1900	2	5118	0.0240	1.0000	2.40%
AT&T	130	2100	3	8226	0.0577	1.0000	5.77%
AT&T	130	2300	1	6297	0.0147	1.0000	1.47%
AT&T	132	3500	1	24286	0.0550	1.0000	5.50%
AT&T	128	3500	1	24286	0.0587	1.0000	5.87%
						Total	**47.01%**

Table 1: Carrier Information[2]

[2] The existing record in the CSC Power Density Table for AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for Sprint and T-Mobile was taken directly from the CSC database dated 01/21/2022. Please note that % MPE values listed are rounded to two decimal points and the total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not identically match the total value reflected in the table

5. Conclusion

The above analysis concludes that RF exposure at ground level from the proposed site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using conservative calculation methods, the highest expected percent of Maximum Permissible Exposure at ground level is **47.01% of the FCC General Population/Uncontrolled limit**.

As noted previously, the calculated % MPE levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1 and ANSI/IEEE Std. C95.3.

March 29, 2022
Date

Reviewed/Approved By: Martin J. Lavin
Senior RF Engineer
C Squared Systems, LLC

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[3]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[4]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[3] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

[4] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

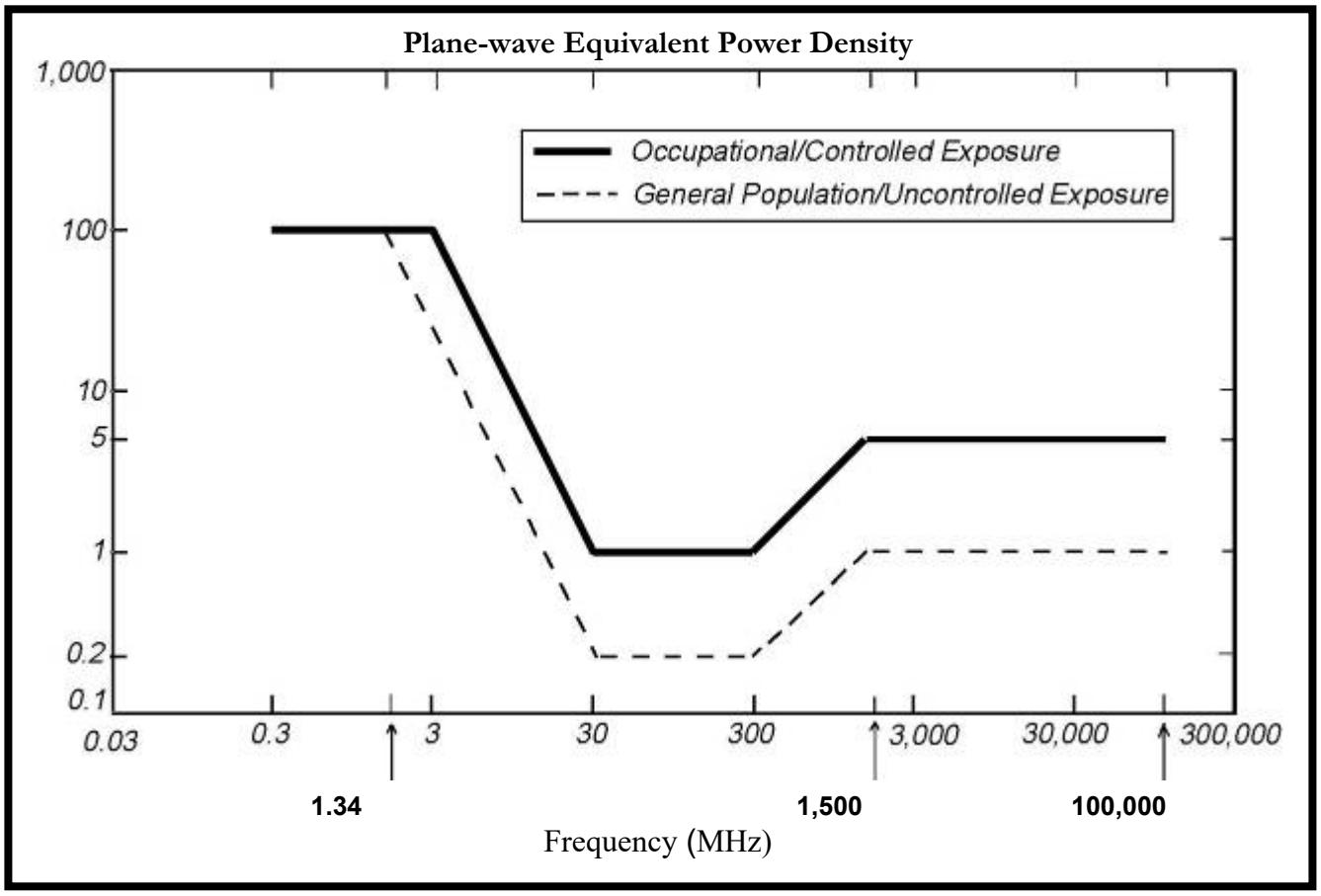
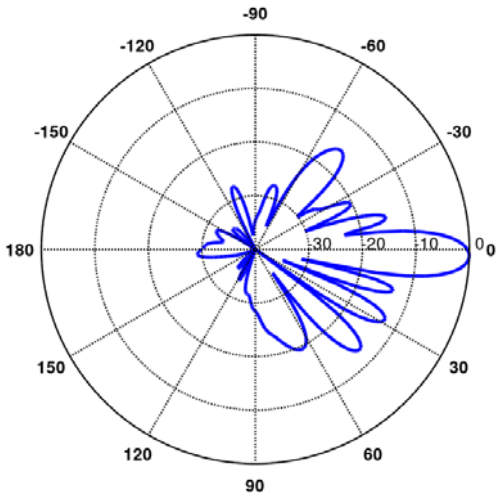
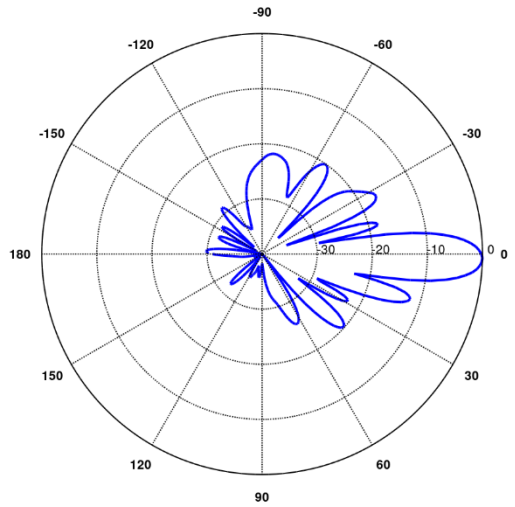
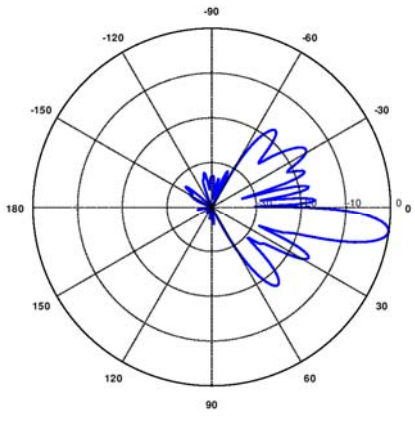
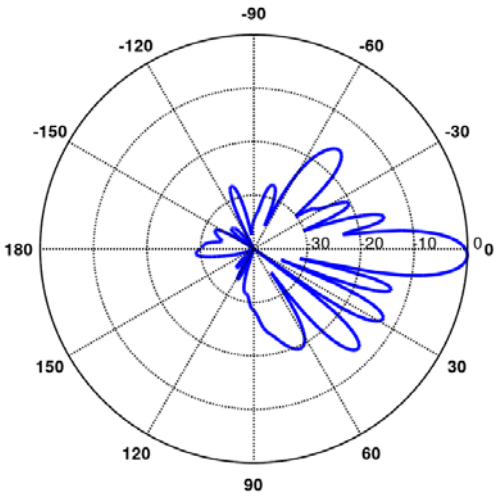
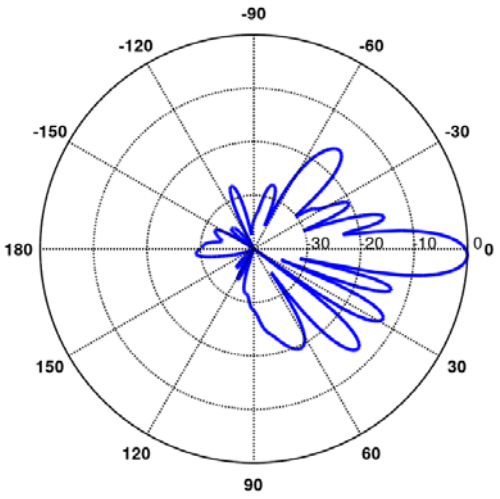
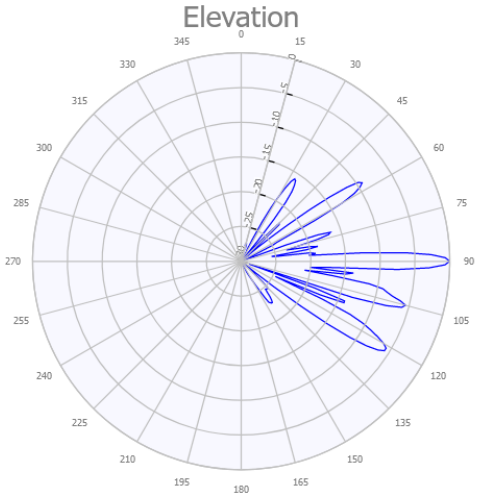


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

700 MHz Manufacturer: Quintel Model #: QD8616-7 Frequency Band: 698-798 MHz Gain: 15.2 dBi Vertical Beamwidth: 9.1° Horizontal Beamwidth: 67° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 22.0” x 9.6”	
700 MHz Manufacturer: CCI Model #: DMP65R-BU8DA Frequency Band: 698 - 806MHz Gain: 15.1 dBi Vertical Beamwidth: 9.5° Horizontal Beamwidth: 75° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 20.7” x 7.7”	
885 MHz Manufacturer: CCI Model #: DMP65R-BU8DA Frequency Band: 824 - 896 MHz Gain: 16.0 dBi Vertical Beamwidth: 8.0° Horizontal Beamwidth: 64° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 20.7” x 7.7”	

1900 MHz Manufacturer: Quintel Model #: QD8616-7 Frequency Band: 1920-1990 MHz Gain: 17.2 dBi Vertical Beamwidth: 6.2° Horizontal Beamwidth: 62° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 22.0” x 9.6”	
2100 MHz Manufacturer: Quintel Model #: QD8616-7 Frequency Band: 1920-2180 MHz Gain: 17.5 dBi Vertical Beamwidth: 5.5° Horizontal Beamwidth: 62° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 22.0” x 9.6”	
2300 MHz Manufacturer: CCI Model #: DMP65R-BU8DA Frequency Band: 2300-2400 MHz Gain: 18.1 dBi Vertical Beamwidth: 4.1° Horizontal Beamwidth: 54° Polarization: Dual Linear 45° Size L x W x D: 96.0” x 20.7” x 7.7”	

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:
- NEW AT&T ANTENNAS: AIR 6649 N77D (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: AIR 6419 N77G (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: QD8616-7 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: DMP65R-BU8DA (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2) (TO BE RELOCATED TO POS. 4)
- PROPOSED AT&T RRUS-4449 B5/B12 (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2)
- EXISTING AT&T RRUS 4426 B66 (AWS) (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2) (TO BE RELOCATED TO POS. 2)
- EXISTING AT&T RRUS-32 B30 (WCS) (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2) (TO BE RELOCATED TO POS. 4)
- EXISTING AT&T RRUS-32 B2 (PCS) (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2) (TO BE RELOCATED TO POS. 2)
- EXISTING AT&T RRUS 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 2)
- NEW AT&T DC & FIBER SURGE ARRESTOR DC9-48-60-24-8C-EV (TOTAL OF 2) WITH (2) DC POWER & (1) FIBER RUN.
- NEW AT&T (2) Y-CABLES.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- ADD 6673 FHG.
- ADD (2) RECTIFIERS
- PROPOSED AT&T BATTERY RACK (VERTIV NUMBER 562353) W/ 3 STRINGS

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNAS: HPA-65R-BUU-H8 (TYP. OF 2 PER ALPHA & BETA SECTOR, 1 PER GAMMA SECTOR, TOTAL OF 5).
- EXISTING AT&T ANTENNA: OPA-65R-LCUU-H8 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNA: DMP65R-BU8DA (TOTAL OF 1 PER GAMMA SECTOR).
- EXISTING AT&T SURGE ARRESTOR (TOTAL OF 2)
- EXISTING AT&T RRUS-11 B12 (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2)
- EXISTING AT&T RRUS-11 B5 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T RRUS-12 B5 (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2)
- EXISTING AT&T DC ONLY & DC/FIBER SURGE ARRESTOR (TOTAL OF 2)

ITEMS TO REMAIN:
- (3) ANTENNAS, (18) RRU'S, (2) SURGE ARRESTOR, (9) DC POWER & (2) FIBER.

SITE ADDRESS:	220 EVERGREEN ST BRIDGEPORT, CT 06606
LATITUDE:	41.197778° N, 41° 11' 52.00" N
LONGITUDE:	73.190692° W, 73° 11' 26.49" W
TYPE OF SITE:	MONOPOLE / INDOOR
STRUCTURE HEIGHT:	135'-0"±
RAD CENTER:	130'-0"±, 128'-0"± & 132'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

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A-4	DETAILS	1
G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1
RF-2	RF PLUMBING DIAGRAM	1

SITE NUMBER: CT5100

SITE NAME: BRIDGEPORT EVERGREEN ST

FA CODE: 10107972

PACE ID: MRCTB052649, MRCTB051376, MRCTB051004, MRCTB051126, MRCTB050858, MRCTB050816, MRCTB051518

PROJECT: 5GNR 1SR_C-BAND_BBU ADD_UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING WEST ON COCHITUATE RD/MA-30 TOWARD BURR ST. MAKE A U-TURN AT BURR ST ONTO COCHITUATE RD/MA-30. MERGE ONTO I-90 W/MASSACHUSETTS TPKE W TOWARD SPRINGFIELD/BOSTON. MERGE ONTO I-84 W/WILBUR CROSS HWY S VIA EXIT 9 TOWARD US-20/HARTFORD/NEW YORK CITY (PORTIONS TOLL) (CROSSING INTO CONNECTICUT).
KEEP LEFT TO TAKE CT-15 S/WILBUR CROSS HWY S VIA EXIT 57 TOWARD I-91 S/CHARTER OAK BR/NY CITY. MERGE ONTO I-91 S VIA EXIT 86 TOWARD NEW HAVEN/NY CITY. MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST. MERGE ONTO CT-8 S VIA EXIT 52 TOWARD BRIDGEPORT. TAKE EXIT 5 TOWARD NORTH AVE/BOSTON AVE/BEARDSLEY ZOOLOGICAL GARDENS/MOTOR VEH DEPT. MERGE ONTO CHOPSEY HILL RD. TURN RIGHT ONTO US-1 S/NORTH AVE. TURN LEFT ONTO RIVER ST. SCRUPLES LOUNGE IS ON THE LEFT. TAKE THE 1ST LEFT ONTO EVERGREEN ST.
220 EVERGREEN ST IS ON THE RIGHT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	02/01/22	ISSUED FOR CONSTRUCTION	GA	HC	DPH
0	10/27/21	ISSUED FOR REVIEW	GA	HC	DPH
A	10/14/21	ISSUED FOR REVIEW	GA	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET

5GNR 1SR_C-BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – SAI
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. **APPLICABLE BUILDING CODES:**
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	10/14/21	ISSUED FOR REVIEW	GA	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

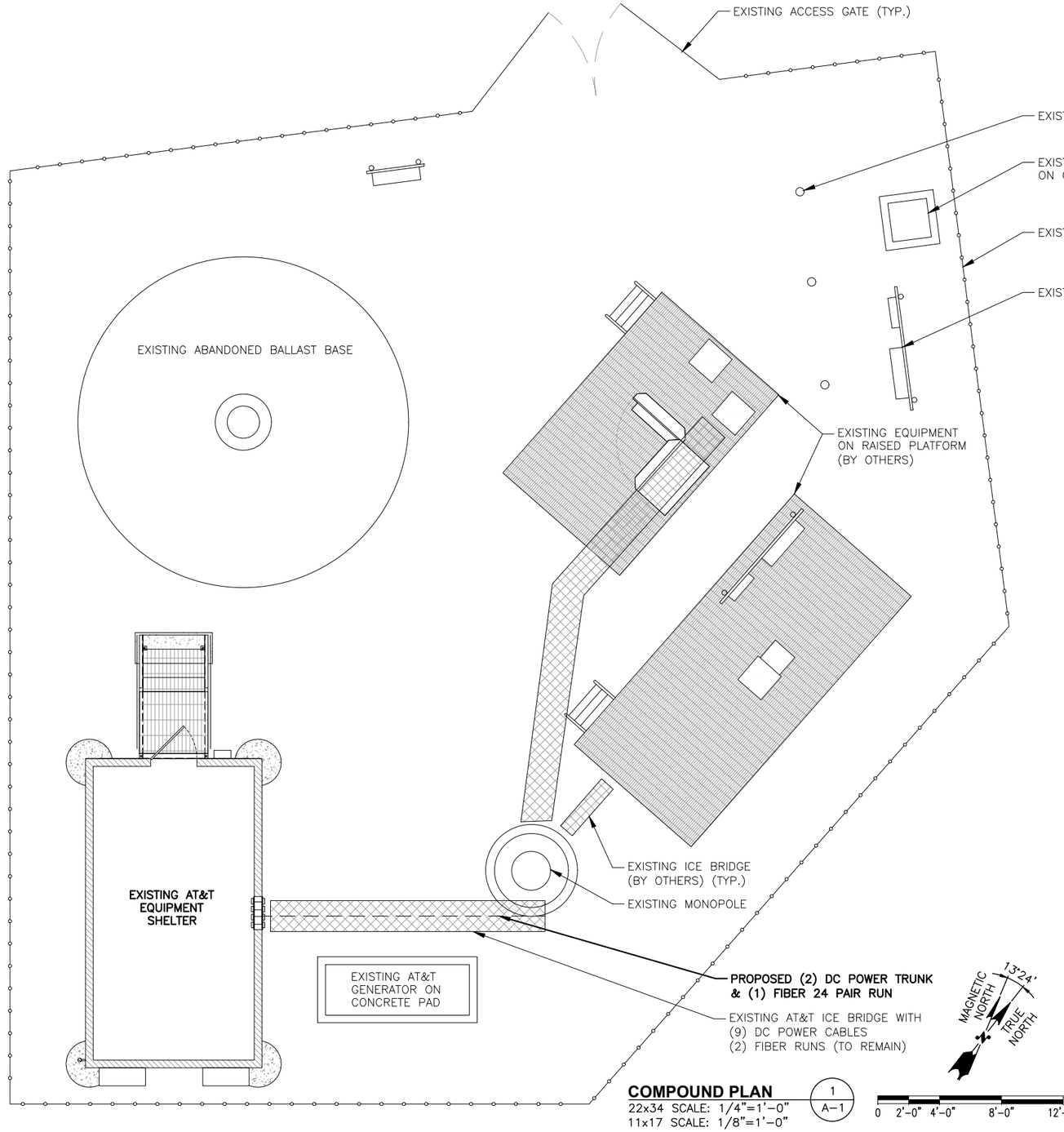
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

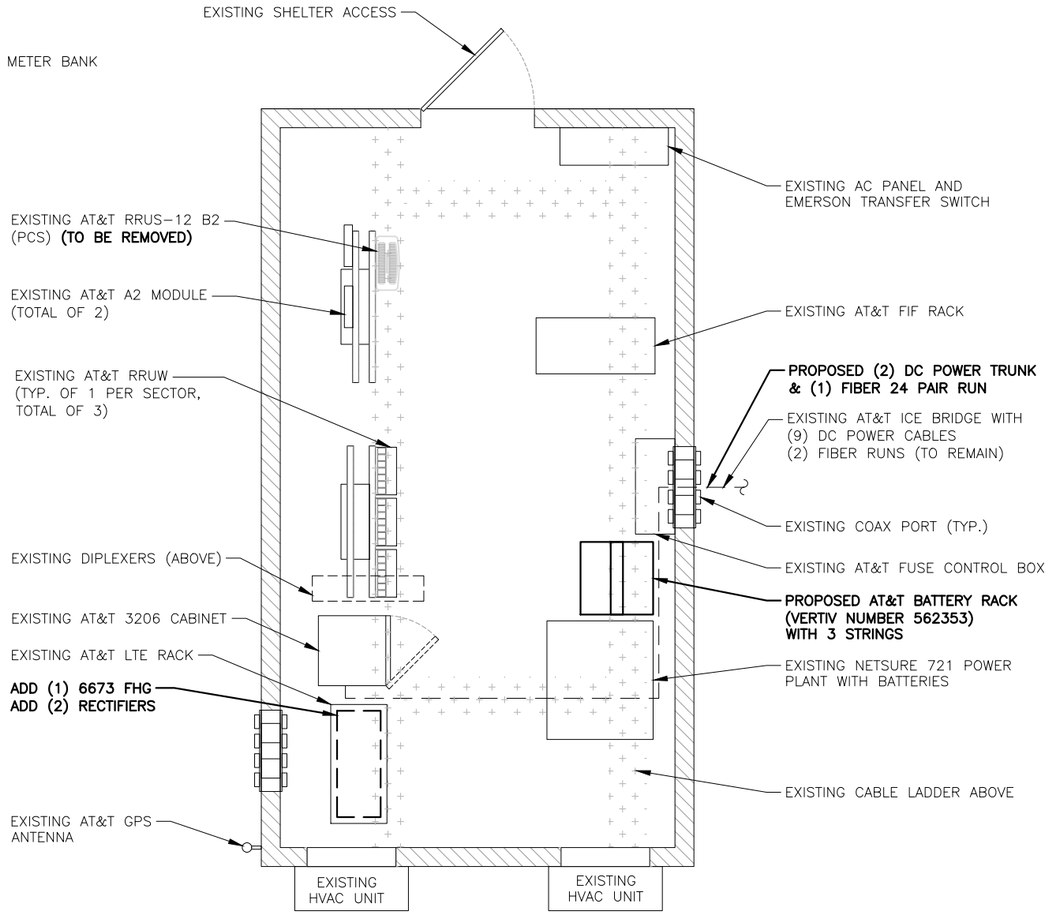
GENERAL NOTES

5GNR 1SR_C-BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	GN-1	1



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"



EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

STATE OF CONNECTICUT · DANIEL P. HAMM · No.24178 · LICENSED PROFESSIONAL ENGINEER

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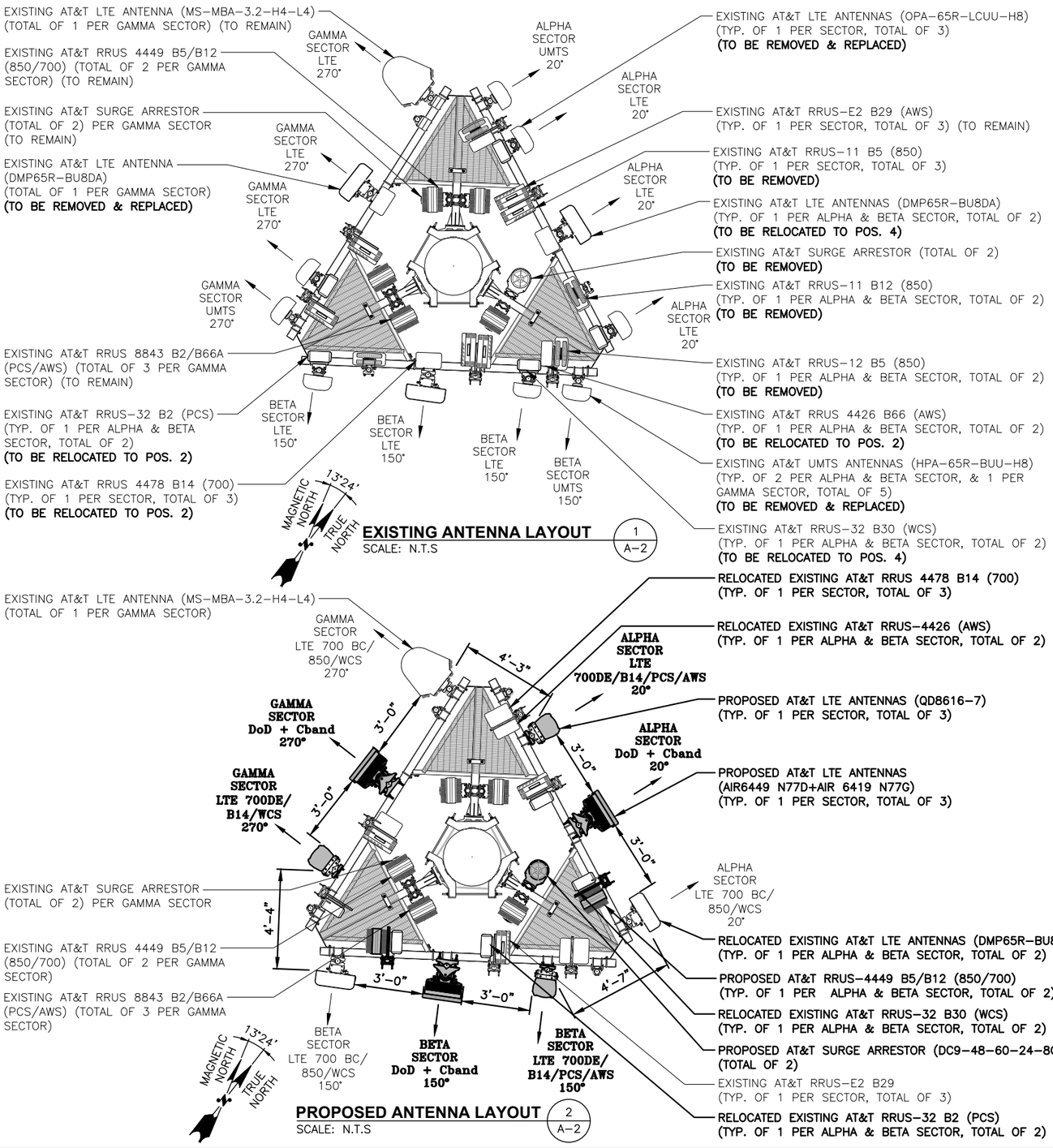
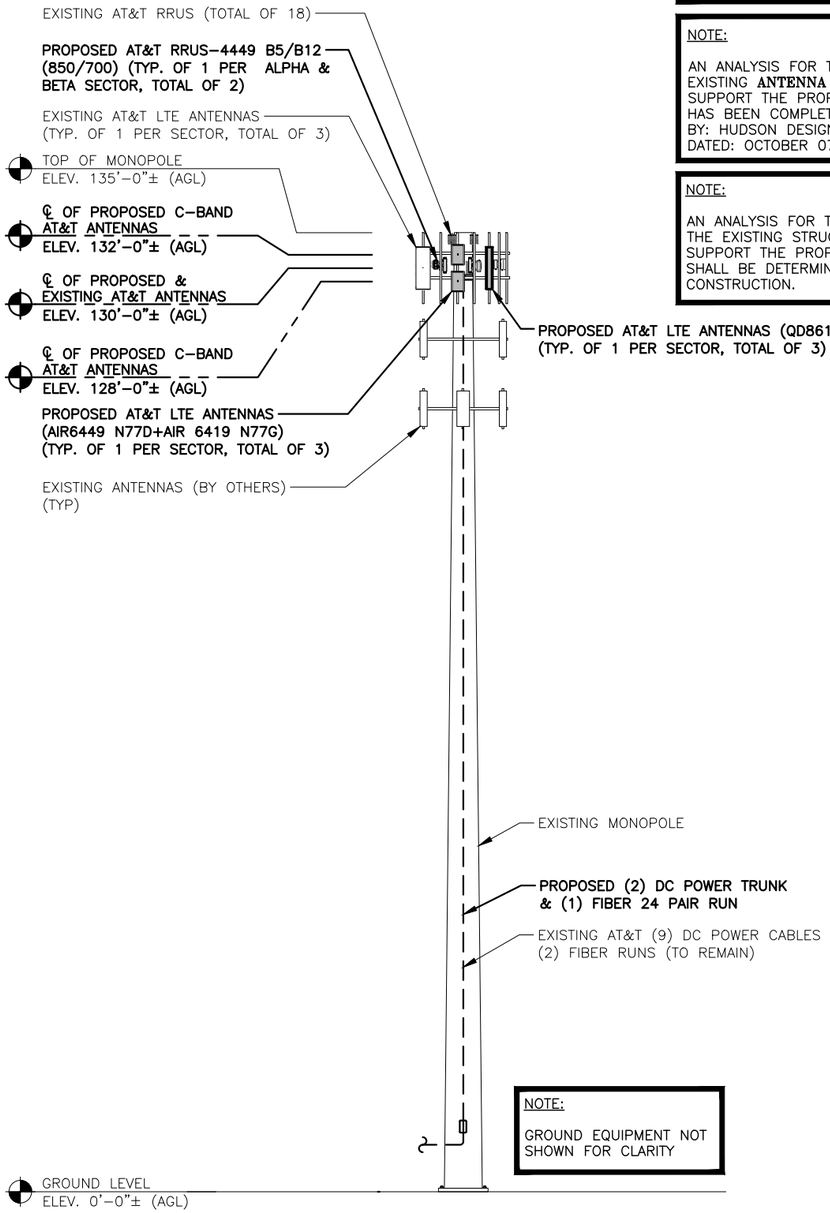
COMPOUND & EQUIPMENT PLANS
5GNR 1SR_C-BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	A-1	1





NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: OCTOBER 07, 2021.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

STATE OF CONNECTICUT DANIEL P. HAMM No.24178 LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUTS & ELEVATION

5GNR 1SR_C-BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	A-2	1

NOTE:

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NOTE:

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BY: HUDSON DESIGN GROUP, LLC.
DATED: OCTOBER 07, 2021.

NOTE:

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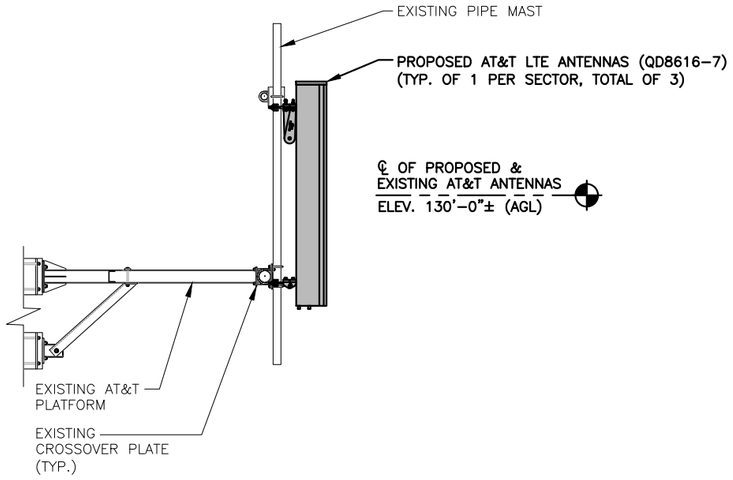
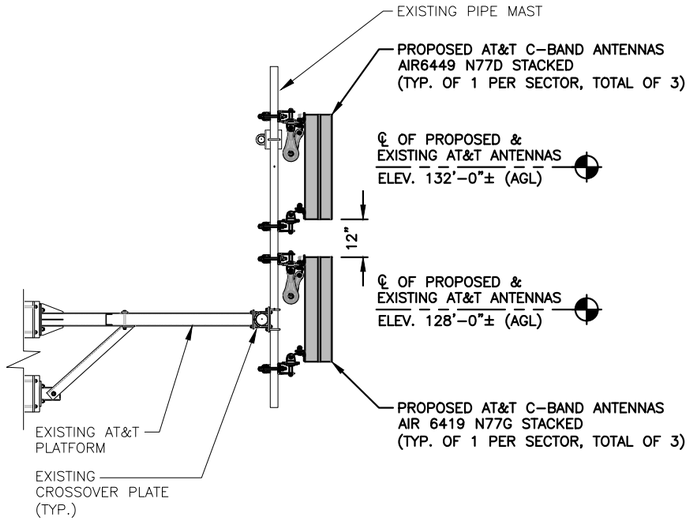
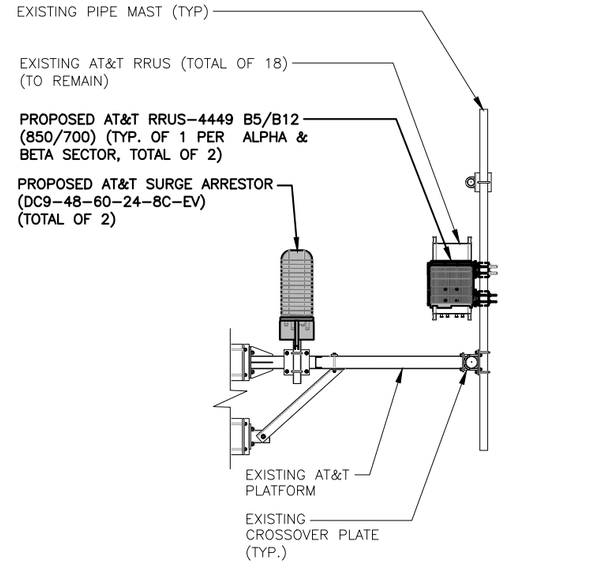


PROPOSED LTE ANTENNA MOUNTING DETAIL (1 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"



PROPOSED C-BAND ANTENNA MOUNTING DETAIL (2 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"



PROPOSED RRUS & SURGE ARRESTOR MOUNTING DETAIL (ALPHA & BETA SECTOR) (3 / A-6)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

HDG HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

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DETAILS

5GNR 1SR_C-BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	A-3	1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	COMBINERS	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	–	–	–	–	–	–	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
A2	**PROPOSED**	**LTE 700DE/B14/PCS/AWS**	**QD8616-7**	**96X22X9.6**	**130'-0"±**	**20°**	–	(E) (1) 4478 B14 (700) (E) (1) RRUS-32 B2 (1900) (E) (1) 4426 B66 (AWS) (E) (1) RRUS-E2 B29	–	(3)(E) DC POWER & (1) FIBER	
A3	**PROPOSED**	**DOD+CBAND**	**AIR6449 N77D+ AIR6419 N77G**	**30.4X15.9X8.1**	**128'-0"± & 132'-0"±**	**20°**	–	–	–	–	
A4	EXISTING	LTE 700 BC/850/WCS	DMP65R-BU8DA	96X20.7X7.7	130'-0"±	20°	–	**(P) (1) 4449 B5/B12 (700)** (E) (1) RRUS-32 B30 (WCS)	**17.9X13.2X10.4** –	–	
B1	–	–	–	–	–	–	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
B2	**PROPOSED**	**LTE 700DE/B14/PCS/AWS**	**QD8616-7**	**96X22X9.6**	**130'-0"±**	150°	–	(E) (1) 4478 B14 (700) (E) (1) RRUS-32 B2 (1900) (E) (1) 4426 B66 (AWS) (E) (1) RRUS-E2 B29	–	(1)(E) DC POWER & **(2)(P) DC POWER** **(1)(P) FIBER 24 PAIR**	
B3	**PROPOSED**	**DOD+CBAND**	**AIR6449 N77D+ AIR6419 N77G**	**30.4X15.9X8.1**	**128'-0"± & 132'-0"±**	**150°**	–	–	–	–	
B4	EXISTING	LTE 700 BC/850/WCS	DMP65R-BU8DA	96X20.7X7.7	130'-0"±	150°	–	**(P) (1) 4449 B5/B12 (700)** (E) (1) RRUS-32 B30 (WCS)	**17.9X13.2X10.4** –	–	
C1	–	–	–	–	–	–	–	–	–	–	(E)(1)DC6-48-60-0-8C-EC (E)(1)DC9-48-60-24-8C-EV
C2	**PROPOSED**	**LTE 700DE/B14/PCS/AWS**	**QD8616-7**	**96X22X9.6**	**130'-0"±**	270°	–	(E) (1) 4478 B14 (700) (E) (1) RRUS-32 B30 (WCS) (E) (1) RRUS-E2 B29	–	(3)(E) DC POWER & (1) FIBER	
C3	**PROPOSED**	**DOD+CBAND**	**AIR6449 N77D+ AIR6419 N77G**	**30.4X15.9X8.1**	**128'-0"± & 132'-0"±**	**270°**	–	–	–	–	
C4	EXISTING	LTE 700 BC/PCS	MS-MBA-3.2-H4-L4	72X24X25	130'-0"±	270°	(6)(E) DBC0051F3V51-2	(E) (2) 4449 B5/B12 (700) (E) (3) 8843 B2/B66A (1900)	–	(2)(E) DC POWER	

FINAL ANTENNA SCHEDULE (1 / A-4)
SCALE: N.T.S

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED
BY: HUDSON DESIGN GROUP, LLC.
DATED: OCTOBER 07, 2021.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

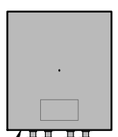
RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
P(2) E(2)	**4449 (850/700)**	**17.9"x13.2"x10.4"**
E(3)	8843 (PCS/AWS)	14.9"x13.2"x10.9"
E(3)	4478 B14 (700)	18.1"x13.4"x8.3"
E(2)	4426 B66 (AWS)	14.9"x13.2"x5.8"
E(3)	RRUS-32 B30 (WCS)	27.2"x12.1"x7.0"
E(2)	RRUS-32 B2 (PCS)	27.2"X12.1"X7.0"
E(3)	RRUS-E2 B29 (700)	20.4"x18.5"x7.5"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:

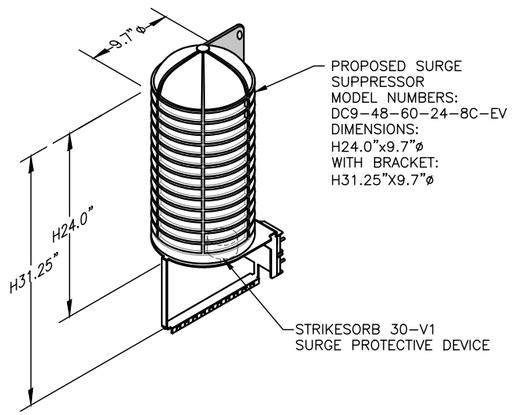
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (2 / A-4)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (3 / A-4)
SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
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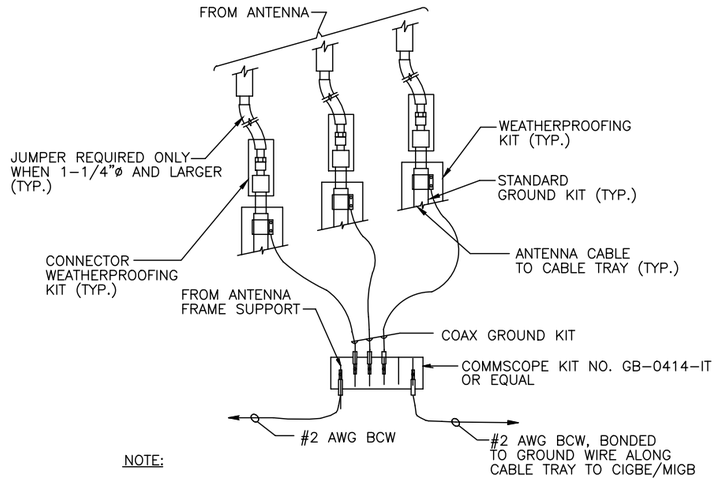
DETAILS

5GNR 1SR_C-BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	A-4	1



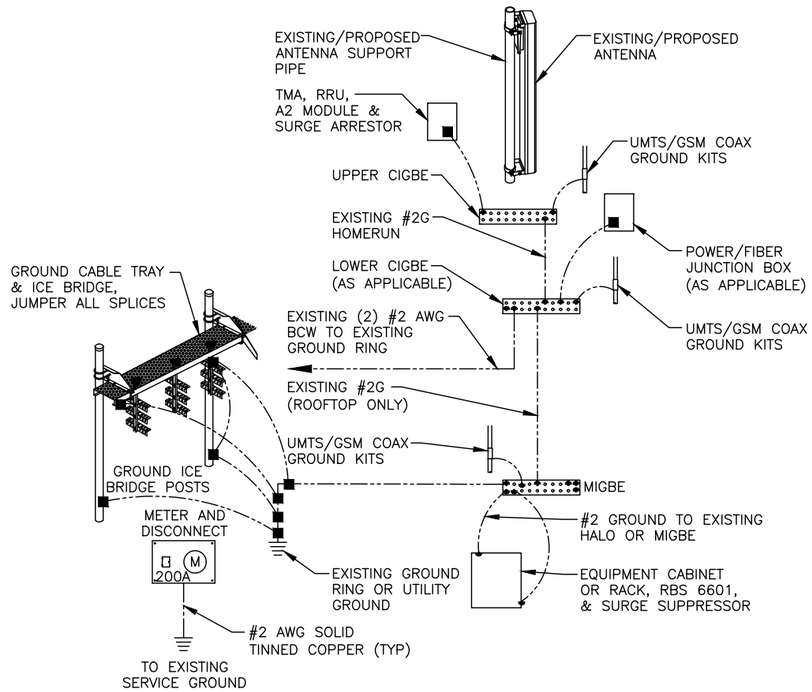
NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

1 / G-1

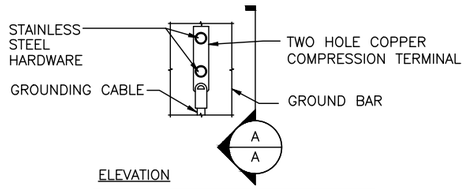
SCALE: N.T.S



GROUNDING RISER DIAGRAM

2 / G-1

SCALE: N.T.S



NOTES:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL

3 / G-1

SCALE: N.T.S

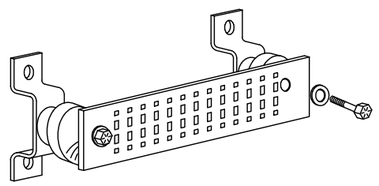
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
+24V POWER SUPPLY RETURN BAR (#2 AWG)
-48V POWER SUPPLY RETURN BAR (#2 AWG)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED)

4 / G-1

SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	02/01/22	ISSUED FOR CONSTRUCTION	GA	HC	DPH
0	10/27/21	ISSUED FOR REVIEW	GA	HC	DPH
A	10/14/21	ISSUED FOR REVIEW	GA	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

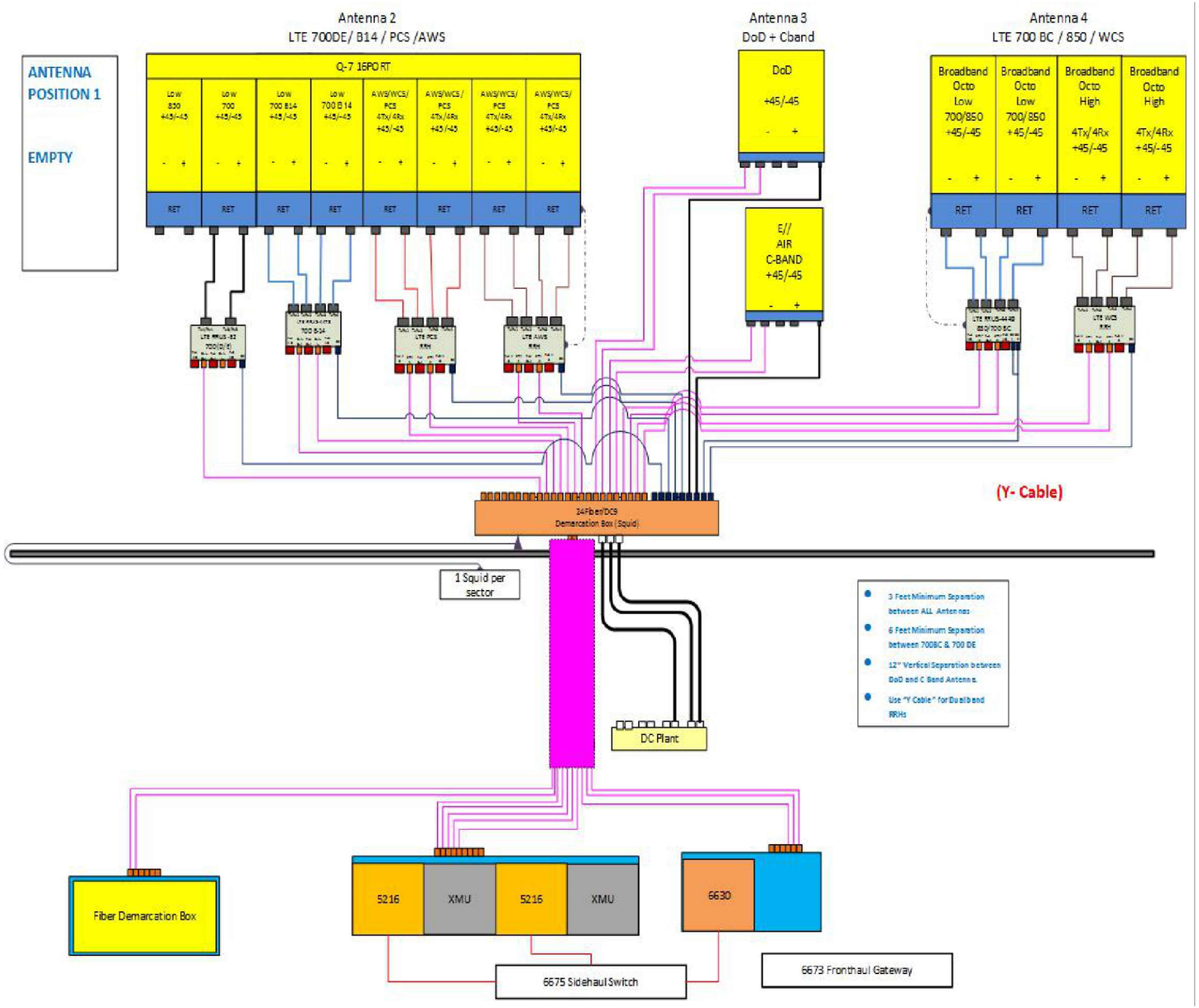
AT&T

GROUNDING DETAILS

5GNR 1SR_C-BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	G-1	1

ALPHA & BETA



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

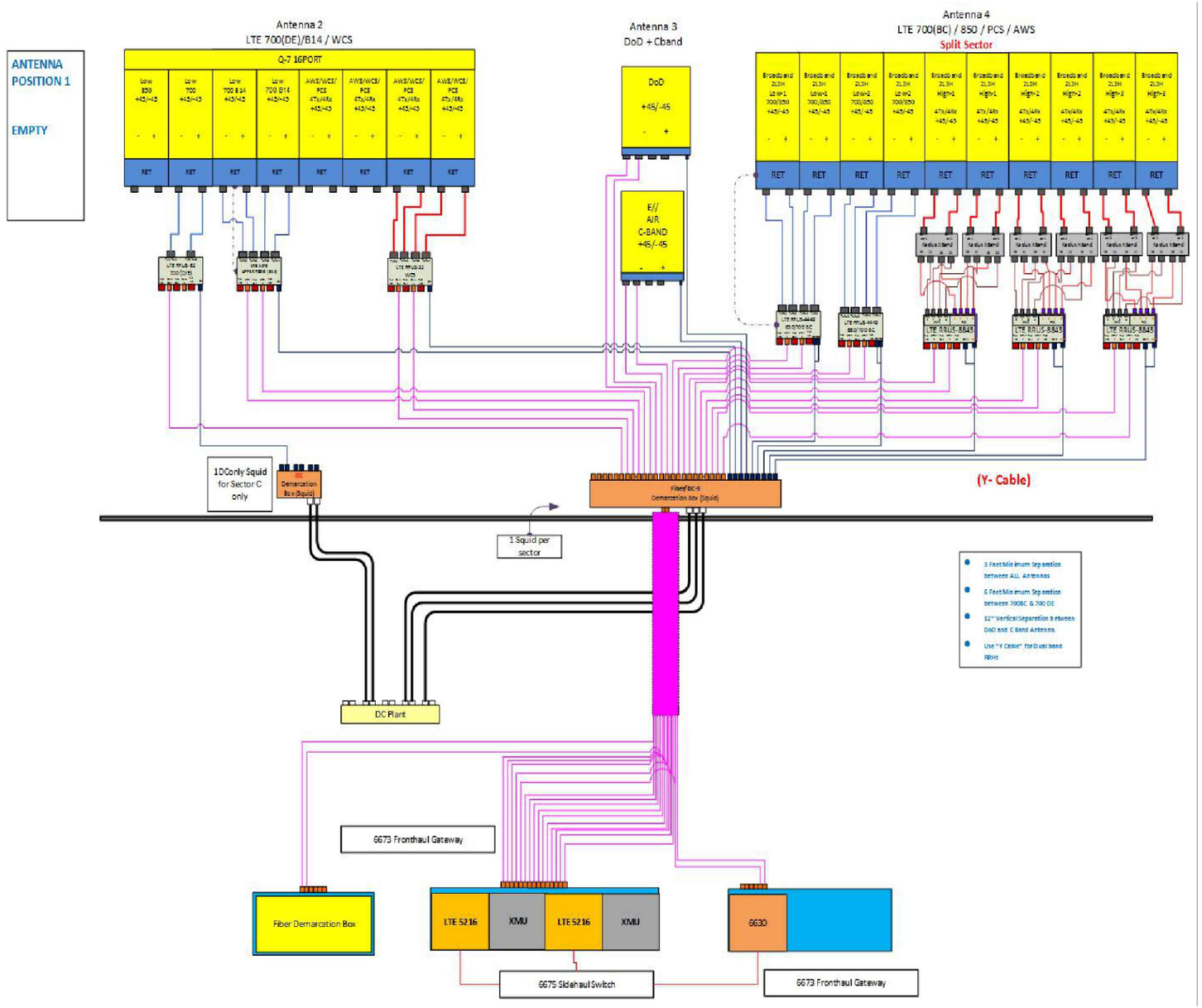
AT&T

RF PLUMBING DIAGRAM

5GNR 1SR_C–BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	RF–1	1

GAMMA



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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SALEM, NH 03079

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	02/01/22	ISSUED FOR CONSTRUCTION	GA	HC	DPH
0	10/27/21	ISSUED FOR REVIEW	GA	HC	DPH
A	10/14/21	ISSUED FOR REVIEW	GA	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: GA

AT&T

RF PLUMBING DIAGRAM

5GNR 1SR_C–BAND_BBU ADD_UPGRADE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5100	RF–2	1

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**134 ft Monopole**
ATC Site Name	:	**Evergreen Street CT,CT**
ATC Site Number	:	**210747**
Engineering Number	:	**OAA772421_C3_01**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**BRIDGEPORT EVERGREEN ST**
Carrier Site Number	:	**CT5100**
Site Location	:	**220 Evergreen Street** **Bridgeport, CT 06606** **41.1978, -73.1908**
County	:	**Fairfield**
Date	:	**January 14, 2022**
Max Usage	:	**27%**
Result	:	**Pass**

Prepared By:

Rebecca Malz
Structural Engineer I

Reviewed By:

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 134 ft Monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	Rohn Drawing #217435-01-D1, dated March 17, 2016
Foundation Drawing	Rohn Drawing #217435-01-F1, dated March 17, 2016
Geotechnical Report	TEP Project #64250.39272, dated October 30, 2015

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	119 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	Ss = 0.21, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
130.0	2	Ericsson RRUS 4449 B5, B12	Triangular Platform with Handrails	(2) 0.39" (10mm) Fiber Trunk (8) 0.78" (19.7mm) 8 AWG 6 (1) 0.96" (24.3mm) Cable (4) 2" conduit (3) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
	2	Ericsson RRUS 4426 B66			
	3	Ericsson RRUS 8843 B2, B66A			
	1	Raycap DC6-48-60-18-8F			
	6	Kaelus DBC0051F3V51-2			
	2	CCI DMP65R-BU8D			
	3	Ericsson RRUS E2 B29			
	3	Ericsson RRUS-32 B30 (77 lbs)			
	1	Raycap DC9-48-60-24-8C-EV			
	1	Matsing MBA-3.2-H4-L4			
	2	Ericsson RRUS 32 B2			
120.0	1	Motorola PTP-600	Triangular Platform with Handrails	(4) 1 1/4" Hybriflex Cable (5) 1/2" Coax (6) 5/16" (0.31"-7.9mm) Coax	SPRINT NEXTEL
	3	RFS IBC1900BB-1			
	3	RFS IBC1900HG-2A			
	3	DragonWave Airpair (Radio-7.5" diameter)			
	1	PCTEL GPS-TMG-HR-26N			
	1	MTI Wireless Edge MT-485025/NVH			
	3	RFS APXVSPP18-C-A20 (62 lbs)			
	3	RFS APXVTM14-ALU-I20			
	3	Commscope VHLP2-18-1WH/C			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Generic Nilko 500mm x 500mm x 600 mm BTS			
	6	Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield			
	3	Alcatel-Lucent 800 MHz RRH			
110.0	4	Ericsson RRUS 11 B12	Square Platform with Handrails	(4) 1 5/8" Hybriflex	T-MOBILE
	4	Ericsson AIR32 B4A B2P			
	4	Andrew DBXNH-6565B-A2M			
	4	Ericsson RRUS 11 B4			
	4	Ericsson Radio 4478 B71			
	4	RFS APXVAA24_43-U-A20			
99.0	3	JMA Wireless MX08FRO665-21	Triangular Platform with Handrails	(1) 1.63" (41.3mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			
	1	Raycap RDIDC-9181-PF-48			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
130.0	2	Raycap DC6-48-60-18-8F	-	-	AT&T MOBILITY
	1	Ericsson RRUS 4426 B66			
	3	Ericsson RRUS 4478 B14			
	2	Ericsson RRUS 11 B12			
	1	CCI DMP65R-BU8D			
	2	Ericsson RRUS 12 B5 w/ Solar Shield			
	3	CCI OPA-65R-LCUU-H8 (92.7")			
	5	CCI HPA-65R-BUU-H8			
	3	Ericsson RRUS 11 B5			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
131.8	3	Ericsson AIR 6449 n77D	Triangular Platform with Handrails	(1) 0.39" (10mm) Fiber Trunk (2) 0.96" (24.3mm) Cable	AT&T MOBILITY
130.0	2	Ericsson RRUS 4449 B5, B12			
	2	Raycap DC9-48-60-24-8C-EV			
	3	Quintel QD8616-7			
128.2	3	Ericsson AIR 6419 N77G			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines inside the pole shaft.

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

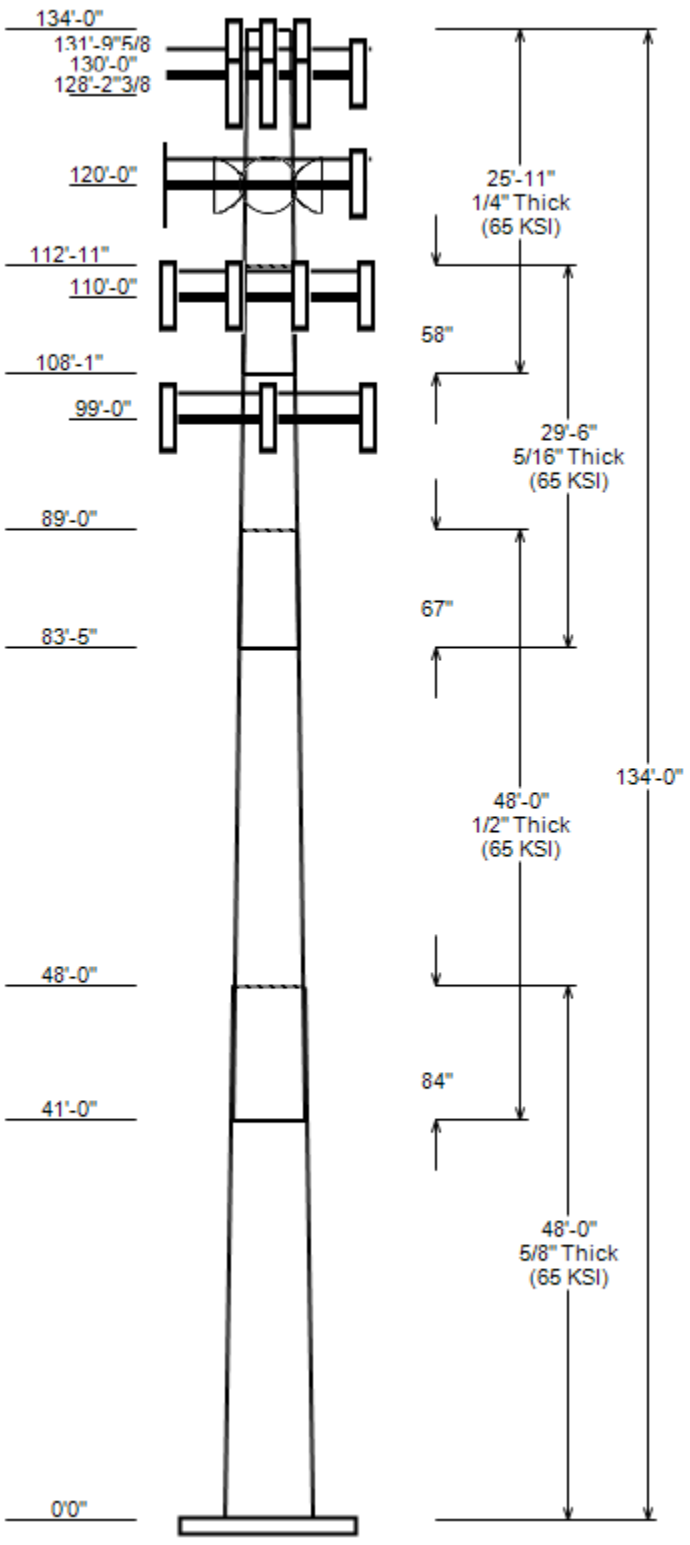
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset :	210747, Evergreen Street CT	Height :	134 ft
Client :	AT&T MOBILITY	Base Width :	64
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Base Elev (ft):	0.00	Structure Class:	II
Taper :	0.27300 (In/ft)	Exposure :	B
Topographic Category :	1	Topographic Feature:	
Topo Method :	Method 1		

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	48.000	50.89	64.00	0.625		0.000	18 Sides	65
2	48.000	40.69	53.80	0.500	Slip Joint	84.000	18 Sides	65
3	29.500	34.78	42.84	0.312	Slip Joint	67.000	18 Sides	65
4	25.917	29.52	36.60	0.250	Slip Joint	58.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
131.8	131.8	3	Ericsson AIR 6449 n77D
130.0	130.0	6	Kaelus DBC0051F3V51-2
130.0	130.0	1	Raycap DC6-48-60-18-8F
130.0	130.0	3	Ericsson RRUS 8843 B2, B66A
130.0	130.0	2	Ericsson RRUS 4426 B66
130.0	130.0	2	Ericsson RRUS 4449 B5, B12
130.0	130.0	2	Ericsson RRUS 4449 B5, B12
130.0	130.0	2	Ericsson RRUS 32 B2
130.0	130.0	3	Ericsson RRUS E2 B29
130.0	130.0	3	Ericsson RRUS-32 B30 (77 lbs)
130.0	130.0	1	Raycap DC9-48-60-24-8C-EV
130.0	130.0	2	Raycap DC9-48-60-24-8C-EV
130.0	130.0	1	Matsing MBA-3.2-H4-L4
130.0	130.0	2	CCI DMP65R-BU8D
130.0	130.0	3	Quintel QD8616-7
130.0	130.0	1	Generic Flat Platform with Han
128.2	128.2	3	Ericsson AIR 6419 N77G
120.0	120.0	1	PCTEL GPS-TMG-HR-26N
120.0	120.0	3	DragonWave Airpair (Radio-7.5"
120.0	120.0	3	RFS IBC1900HG-2A
120.0	120.0	3	RFS IBC1900BB-1
120.0	120.0	1	Motorola PTP-600
120.0	120.0	1	MTI Wireless Edge MT-485025/NV
120.0	120.0	3	Alcatel-Lucent 800 MHz RRH
120.0	120.0	6	Alcatel-Lucent 1900MHz RRH (65
120.0	120.0	3	Generic Nilko 500mm x 500mm x
120.0	120.0	3	Alcatel-Lucent TD-RRH8x20-25 w
120.0	120.0	3	Commscope VHLP2-18-1WH/C
120.0	120.0	3	RFS APXVTM14-ALU-I20
120.0	120.0	1	Generic Mount Reinforcement
120.0	120.0	3	RFS APXVSPP18-C-A20 (62 lbs)
120.0	120.0	1	Generic Flat Platform with Han
110.0	110.0	4	Ericsson Radio 4478 B71
110.0	110.0	4	Ericsson RRUS 11 B12
110.0	110.0	4	Ericsson RRUS 11 B4
110.0	110.0	4	Ericsson AIR32 B4A B2P
110.0	110.0	4	Andrew DBXNH-6565B-A2M
110.0	110.0	4	RFS APXVAA24_43-U-A20
110.0	110.0	1	Generic Square Platform with H
99.0	99.0	1	Raycap RDIDC-9181-PF-48
99.0	99.0	3	Fujitsu TA08025-B604
99.0	99.0	3	Fujitsu TA08025-B605
99.0	99.0	3	JMA Wireless MX08FRO665-21
99.0	99.0	1	Generic Flat Platform with Han

JOB INFORMATION

Asset :	210747, Evergreen Street CT	Height :	134 ft
Client :	AT&T MOBILITY	Base Width :	64
Code :	ANSI/TIA-222-H	Shape :	18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	130.0	3/8" (0.38"- 9.5mm) RET Control Cable	No
0.0	130.0	2" conduit	No
0.0	130.0	0.96" (24.3mm) Cable	No
0.0	130.0	0.96" (24.3mm) Cable	No
0.0	130.0	0.78" (19.7mm) 8 AWG 6	No
0.0	130.0	0.39" (10mm) Fiber Trunk	No
0.0	130.0	0.39" (10mm) Fiber Trunk	No
0.0	120.0	5/16" (0.31"-7.9mm) Coax	No
0.0	120.0	1/2" Coax	No
0.0	120.0	1 1/4" Hybriflex Cable	No
0.0	110.0	1 5/8" Hybriflex	No
0.0	99.0	1.63" (41.3mm) Hybrid	No

LOAD CASES

1.2D + 1.0W	119 mph wind with no ice
0.9D + 1.0W	119 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	2932.47	29.84	70.36
0.9D + 1.0W	2917.56	29.83	52.77
1.2D + 1.0Di + 1.0Wi	753.52	7.87	89.92
1.2D + 1.0Ev + 1.0Eh	234.88	2.29	70.17
0.9D - 1.0Ev + 1.0Eh	233.41	2.29	48.19
1.0D + 1.0W	664.76	6.78	58.65

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	120.00	4.741	0.368

ANALYSIS PARAMETERS

Location:	Fairfield County,CT	**Height:**	134 ft
Type and Shape:	Taper, 18 Sides	**Base Diameter:**	64.00 in
Manufacturer:	Rohn	**Top Diameter:**	29.52 in
K_d (non-service):	0.95	**Taper:**	0.2730 in/ft
K_e:	1.00	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed w/o Ice:**	119 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	0.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	1.48
T_L (sec):	6	**P:**	1	**C_s:**	0.039
S_s:	0.211	**S_1:**	0.054	**C_s Max:**	0.039
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.225	**S_{d1}:**	0.086		

LOAD CASES

1.2D + 1.0W	119 mph wind with no ice
0.9D + 1.0W	119 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in^2)	Bottom Ix (in^4)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in^2)	Top Ix (in^4)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
									125.7							31,824.8			
1-18	48.00	0.6250	65		0.00	18,409	64.00	0.000	2	63,793.8	16.29	102.40	50.89	48.00	99.71		12.59	81.42	0.2732
2-18	48.00	0.5000	65	Slip	84.00	12,116	53.80	41.000	84.58	30,359.6	17.21	107.60	40.69	89.00	63.78	13,013.7	12.59	81.38	0.2732
3-18	29.50	0.3125	65	Slip	67.00	3,833	42.84	83.420	42.18	9,637.1	22.41	137.08	34.78	112.92	34.19	5,131.1	17.86	111.30	0.2732
								108.08								2,514.0			
4-18	25.92	0.2500	65	Slip	58.00	2,296	36.60	3	28.84	4,815.0	24.05	146.40	29.52	134.00	23.23		19.06	118.08	0.2732
				Shaft Weight		36,654													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
131.80	Ericsson AIR 6449 n77D	3	0.75	0.000	81.60	4.028	0.65	149.59	4.932	0.65
130.00	Quintel QD8616-7	3	0.75	0.000	150.00	18.815	0.65	400.59	21.248	0.65
130.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3669.07	56.201	1.00
130.00	CCI DMP65R-BU8D	2	0.75	0.000	95.70	17.871	0.63	319.37	20.296	0.63
130.00	Matsing MBA-3.2-H4-L4	1	0.75	0.000	130.00	15.211	1.00	445.70	17.108	1.00
130.00	Raycap DC9-48-60-24-8C-EV	2	0.75	0.000	16.00	4.788	1.00	100.96	5.756	1.00
130.00	Raycap DC9-48-60-24-8C-EV	1	0.75	0.000	16.00	4.788	1.00	100.96	5.756	1.00
130.00	Ericsson RRUS-32 B30 (77 lbs)	3	0.75	0.000	77.00	3.314	0.71	141.00	4.159	0.71
130.00	Ericsson RRUS E2 B29	3	0.75	0.000	60.00	3.145	0.62	113.23	3.908	0.62
130.00	Ericsson RRUS 32 B2	2	0.75	0.000	53.00	2.743	0.67	101.40	3.513	0.67
130.00	Ericsson RRUS 4449 B5, B12	2	0.75	0.000	71.00	1.969	0.50	113.41	2.583	0.50
130.00	Ericsson RRUS 4449 B5, B12	2	0.75	0.000	71.00	1.969	0.50	113.41	2.583	0.50
130.00	Ericsson RRUS 4426 B66	2	0.75	0.000	48.40	1.650	0.50	77.78	2.209	0.50
130.00	Ericsson RRUS 8843 B2, B66A	3	0.75	0.000	72.00	1.639	0.50	112.34	2.195	0.50
130.00	Raycap DC6-48-60-18-8F	1	0.75	0.000	20.00	1.260	1.00	54.65	1.693	1.00
130.00	Kaelus DBC0051F3V51-2	6	0.75	0.000	12.40	0.413	0.50	22.18	0.703	0.50
128.20	Ericsson AIR 6419 N77G	3	0.75	0.000	70.00	3.925	0.57	131.59	4.816	0.57
120.00	RFS APXVSPP18-C-A20 (62 lbs)	3	0.75	0.000	62.00	8.024	0.71	180.07	9.842	0.71
120.00	Generic Mount Reinforcement	1	1.00	0.000	200.00	7.500	1.00	326.17	12.381	1.00
120.00	RFS APXVTM14-ALU-I20	3	0.75	0.000	56.20	6.342	0.66	145.97	7.762	0.66
120.00	Commscope VHLP2-18-1WH/C	3	1.00	0.000	17.00	4.650	1.00	75.61	5.478	1.00
120.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.75	0.000	70.00	4.046	0.61	131.61	4.911	0.61
120.00	PCTEL GPS-TMG-HR-26N	1	0.75	0.000	0.60	0.090	1.00	3.76	0.208	1.00
120.00	Alcatel-Lucent 1900MHz RRH (65	6	0.75	0.000	60.00	2.583	0.67	120.11	3.309	0.67
120.00	Alcatel-Lucent 800 MHz RRH	3	0.75	0.000	53.00	2.134	0.67	101.12	2.772	0.67
120.00	MTI Wireless Edge MT-485025/NV	1	0.75	0.000	5.50	1.776	1.00	26.88	2.347	1.00
120.00	Motorola PTP-600	1	0.75	0.000	12.10	1.752	1.00	38.06	2.319	1.00
120.00	RFS IBC1900BB-1	3	0.75	0.000	22.00	0.966	0.50	39.60	1.397	0.50
120.00	RFS IBC1900HG-2A	3	0.75	0.000	22.00	0.966	0.50	39.60	1.397	0.50
120.00	DragonWave Airpair (Radio-7.5"	3	0.75	0.000	7.00	0.340	1.00	12.51	0.629	1.00
120.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3658.12	56.072	1.00
120.00	Generic Nilko 500mm x 500mm x	3	0.75	0.000	30.00	3.874	0.74	131.70	4.711	0.74
110.00	Andrew DBXNH-6565B-A2M	4	0.75	0.000	46.30	8.173	0.69	160.13	9.997	0.69
110.00	RFS APXVAA24_43-U-A20	4	0.75	0.000	101.40	20.267	0.63	353.67	22.670	0.63
110.00	Generic Square Platform with H	1	1.00	0.000	3790.00	49.300	1.00	6660.23	104.415	1.00
110.00	Ericsson AIR32 B4A B2P	4	0.75	0.000	105.80	6.523	0.71	209.15	7.943	0.71
110.00	Ericsson RRUS 11 B12	4	0.75	0.000	50.70	2.791	0.67	97.55	3.501	0.67
110.00	Ericsson RRUS 11 B4	4	0.75	0.000	50.70	2.791	0.67	97.55	3.501	0.67
110.00	Ericsson Radio 4478 B71	4	0.75	0.000	60.00	1.650	0.50	92.38	2.198	0.50
99.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3636.12	55.813	1.00
99.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	228.88	14.286	0.64
99.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	101.20	2.550	0.50
99.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	115.07	2.550	0.50
99.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	58.29	2.443	1.00
Totals	Num Loadings: 44	114			17,659.90			32,279.97		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : 0.00

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	130.00	8	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	130.00	4	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	130.00	3	3/8" (0.38"- 9.5mm) R	0.38	0.23	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	130.00	2	0.96" (24.3mm) Cable	0.96	0.88	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	130.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	130.00	1	0.96" (24.3mm) Cable	0.96	0.88	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	130.00	1	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	120.00	6	5/16" (0.31"-7.9mm) C	0.31	0.05	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	120.00	5	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	120.00	4	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	110.00	4	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	T-MOBILE
0.00	99.00	1	1.63" (41.3mm) Hybrid	1.63	1.91	N	0	0	0	0	0	N	DISH WIRELESS

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.6250	64.000	125.716	63,793.80	16.29	102.40	82.2	1963.3	0.0	0.0
5.00		0.6250	62.634	123.006	59,757.40	15.91	100.21	82.6	1879.2	0.0	2,115.9
10.00		0.6250	61.268	120.297	55,895.00	15.52	98.03	82.6	1796.9	0.0	2,069.8
15.00		0.6250	59.902	117.587	52,202.70	15.14	95.84	82.6	1716.4	0.0	2,023.7
20.00		0.6250	58.537	114.878	48,676.70	14.75	93.66	82.6	1637.9	0.0	1,977.6
25.00		0.6250	57.171	112.169	45,313.20	14.37	91.47	82.6	1561.1	0.0	1,931.5
30.00		0.6250	55.805	109.459	42,108.20	13.98	89.29	82.6	1486.2	0.0	1,885.4
35.00		0.6250	54.439	106.750	39,058.10	13.60	87.10	82.6	1413.1	0.0	1,839.3
40.00		0.6250	53.073	104.040	36,159.00	13.21	84.92	82.6	1341.9	0.0	1,793.2
41.00	Bot - Section 2	0.6250	52.800	103.498	35,596.90	13.13	84.48	82.6	1327.9	0.0	353.1
45.00		0.6250	51.707	101.331	33,407.00	12.82	82.73	82.6	1272.5	0.0	2,533.5
48.00	Top - Section 1	0.5000	51.888	81.550	27,207.90	16.54	103.78	82	1032.8	0.0	1,865.2
50.00		0.5000	51.342	80.683	26,349.30	16.34	102.68	82.2	1010.8	0.0	552.0
55.00		0.5000	49.976	78.515	24,282.20	15.86	99.95	82.6	957.0	0.0	1,354.3
60.00		0.5000	48.610	76.348	22,326.20	15.38	97.22	82.6	904.6	0.0	1,317.4
65.00		0.5000	47.244	74.180	20,478.10	14.90	94.49	82.6	853.7	0.0	1,280.5
70.00		0.5000	45.878	72.012	18,735.00	14.42	91.76	82.6	804.3	0.0	1,243.7
75.00		0.5000	44.512	69.845	17,093.70	13.93	89.02	82.6	756.4	0.0	1,206.8
80.00		0.5000	43.146	67.677	15,551.10	13.45	86.29	82.6	709.9	0.0	1,169.9
83.42	Bot - Section 3	0.5000	42.213	66.196	14,552.30	13.12	84.43	82.6	679.0	0.0	778.2
85.00		0.5000	41.781	65.510	14,104.30	12.97	83.56	82.6	664.9	0.0	580.9
89.00	Top - Section 2	0.3125	41.313	40.666	8,636.90	21.55	132.20	76.1	411.8	0.0	1,440.7
90.00		0.3125	41.040	40.395	8,465.40	21.39	131.33	76.2	406.3	0.0	137.9
95.00		0.3125	39.674	39.040	7,642.00	20.62	126.96	77.1	379.4	0.0	675.7
99.00		0.3125	38.581	37.956	7,023.00	20.01	123.46	77.9	358.5	0.0	524.0
100.00		0.3125	38.308	37.685	6,873.70	19.85	122.59	78.1	353.4	0.0	128.7
105.00		0.3125	36.942	36.331	6,158.80	19.08	118.21	79	328.4	0.0	629.7
108.08	Bot - Section 4	0.3125	36.100	35.495	5,743.60	18.61	115.52	79.5	313.4	0.0	376.8
110.00		0.3125	35.576	34.976	5,495.20	18.31	113.84	79.9	304.2	0.0	416.6
112.92	Top - Section 3	0.2500	35.280	27.795	4,309.10	23.12	141.12	74.2	240.6	0.0	622.2
115.00		0.2500	34.710	27.343	4,102.50	22.72	138.84	74.7	232.8	0.0	195.4
120.00		0.2500	33.345	26.260	3,633.80	21.75	133.38	75.8	214.6	0.0	456.0
125.00		0.2500	31.979	25.176	3,202.20	20.79	127.92	76.9	197.2	0.0	437.6
128.20		0.2500	31.105	24.482	2,944.70	20.18	124.42	77.7	186.5	0.0	270.4
130.00		0.2500	30.613	24.092	2,806.20	19.83	122.45	78.1	180.5	0.0	148.8
131.80		0.2500	30.121	23.702	2,672.00	19.48	120.48	78.5	174.7	0.0	146.4
134.00		0.2500	29.520	23.225	2,514.00	19.06	118.08	79	167.7	0.0	175.7
								Totals:			36,654.5

Load Case: 1.2D + 1.0W 119 mph wind with no ice 18 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.36	-29.84	0.00	-2,932.5	0.00	2,932.47	9,304.68	2,206.31	12,630.11	12,109.07	0	0	0.250
5.00	-67.58	-29.40	0.00	-2,783.3	0.00	2,783.28	9,138.75	2,158.76	12,091.65	11,634.30	0.03	-0.06	0.247
10.00	-64.85	-28.97	0.00	-2,636.3	0.00	2,636.29	8,937.45	2,111.21	11,564.92	11,124.92	0.14	-0.13	0.244
15.00	-62.18	-28.54	0.00	-2,491.5	0.00	2,491.46	8,736.16	2,063.66	11,049.92	10,626.94	0.31	-0.19	0.242
20.00	-59.57	-28.12	0.00	-2,348.8	0.00	2,348.77	8,534.86	2,016.11	10,546.65	10,140.36	0.54	-0.26	0.239
25.00	-57.01	-27.70	0.00	-2,208.2	0.00	2,208.18	8,333.57	1,968.56	10,055.11	9,665.19	0.85	-0.33	0.236
30.00	-54.51	-27.29	0.00	-2,069.7	0.00	2,069.67	8,132.27	1,921.01	9,575.30	9,201.41	1.23	-0.39	0.232
35.00	-52.07	-26.87	0.00	-1,933.2	0.00	1,933.22	7,930.97	1,873.46	9,107.22	8,749.05	1.68	-0.46	0.228
40.00	-49.69	-26.60	0.00	-1,798.9	0.00	1,798.89	7,729.68	1,825.91	8,650.87	8,308.08	2.2	-0.53	0.223
41.00	-49.21	-26.38	0.00	-1,772.3	0.00	1,772.29	7,689.42	1,816.40	8,561.00	8,221.26	2.31	-0.54	0.222
45.00	-45.98	-26.05	0.00	-1,666.8	0.00	1,666.75	7,528.38	1,778.36	8,206.24	7,878.52	2.79	-0.6	0.218
48.00	-43.61	-25.81	0.00	-1,588.6	0.00	1,588.60	6,014.85	1,431.19	6,643.24	6,347.94	3.18	-0.64	0.258
50.00	-42.84	-25.50	0.00	-1,537.0	0.00	1,536.98	5,967.36	1,415.98	6,502.76	6,230.22	3.45	-0.67	0.254
55.00	-40.98	-25.05	0.00	-1,409.5	0.00	1,409.48	5,833.27	1,377.94	6,158.11	5,925.03	4.2	-0.75	0.245
60.00	-39.16	-24.59	0.00	-1,284.2	0.00	1,284.24	5,672.24	1,339.90	5,822.85	5,600.81	5.02	-0.83	0.237
65.00	-37.39	-24.13	0.00	-1,161.3	0.00	1,161.28	5,511.20	1,301.86	5,496.97	5,285.72	5.93	-0.9	0.227
70.00	-35.66	-23.67	0.00	-1,040.6	0.00	1,040.62	5,350.16	1,263.82	5,180.47	4,979.75	6.92	-0.98	0.216
75.00	-33.98	-23.21	0.00	-922.3	0.00	922.26	5,189.13	1,225.78	4,873.36	4,682.90	7.98	-1.05	0.204
80.00	-32.35	-22.82	0.00	-806.2	0.00	806.19	5,028.09	1,187.74	4,575.63	4,395.18	9.13	-1.13	0.190
83.42	-31.27	-22.59	0.00	-728.2	0.00	728.22	4,918.05	1,161.74	4,377.58	4,203.82	9.95	-1.17	0.180
85.00	-30.49	-22.33	0.00	-692.5	0.00	692.46	4,867.06	1,149.70	4,287.28	4,116.58	10.35	-1.2	0.175
89.00	-28.59	-22.07	0.00	-603.2	0.00	603.15	2,783.63	713.68	2,642.94	2,348.85	11.37	-1.25	0.268
90.00	-28.37	-21.82	0.00	-581.1	0.00	581.08	2,771.67	708.93	2,607.84	2,323.06	11.64	-1.26	0.261
95.00	-27.33	-21.43	0.00	-472.0	0.00	471.98	2,710.57	685.15	2,435.88	2,195.08	13.01	-1.35	0.226
99.00	-22.83	-18.64	0.00	-386.3	0.00	386.28	2,660.10	666.13	2,302.53	2,093.93	14.17	-1.41	0.194
100.00	-22.63	-18.38	0.00	-367.6	0.00	367.64	2,647.26	661.38	2,269.78	2,068.83	14.47	-1.43	0.187
105.00	-21.67	-18.03	0.00	-275.7	0.00	275.72	2,581.73	637.60	2,109.55	1,944.50	16	-1.5	0.151
108.08	-21.09	-17.81	0.00	-220.1	0.00	220.14	2,540.22	622.94	2,013.66	1,868.87	16.98	-1.53	0.127
110.00	-14.11	-12.33	0.00	-186.0	0.00	186.01	2,514.00	613.83	1,955.18	1,822.28	17.6	-1.55	0.108
112.92	-13.27	-12.10	0.00	-150.0	0.00	150.03	1,856.34	487.80	1,543.35	1,338.93	18.55	-1.58	0.120
115.00	-12.97	-11.81	0.00	-124.8	0.00	124.82	1,837.80	479.88	1,493.62	1,303.87	19.25	-1.59	0.103
120.00	-7.48	-6.72	0.00	-65.8	0.00	65.77	1,791.74	460.86	1,377.57	1,220.44	20.93	-1.62	0.058
125.00	-6.82	-6.38	0.00	-32.2	0.00	32.16	1,743.46	441.84	1,266.23	1,138.18	22.65	-1.64	0.032
128.20	-6.17	-5.97	0.00	-11.7	0.00	11.74	1,711.41	429.66	1,197.42	1,086.23	23.75	-1.65	0.015
130.00	-0.67	-0.46	0.00	-1.0	0.00	1.00	1,692.98	422.82	1,159.57	1,057.27	24.37	-1.65	0.001
131.80	-0.21	-0.08	0.00	-0.2	0.00	0.17	1,674.26	415.97	1,122.32	1,028.51	25	-1.65	0.000
134.00	0.00	-0.07	0.00	0.0	0.00	0.00	1,651.00	407.60	1,077.62	993.65	25.76	-1.65	0.000

Load Case: 0.9D + 1.0W 119 mph wind with no ice 18 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-52.77	-29.83	0.00	-2,917.6	0.00	2,917.56	9,304.68	2,206.31	12,630.11	12,109.07	0	0	0.247
5.00	-50.67	-29.37	0.00	-2,768.4	0.00	2,768.43	9,138.75	2,158.76	12,091.65	11,634.30	0.03	-0.06	0.244
10.00	-48.62	-28.92	0.00	-2,621.6	0.00	2,621.58	8,937.45	2,111.21	11,564.92	11,124.92	0.14	-0.13	0.241
15.00	-46.61	-28.48	0.00	-2,477.0	0.00	2,476.99	8,736.16	2,063.66	11,049.92	10,626.94	0.3	-0.19	0.239
20.00	-44.64	-28.04	0.00	-2,334.6	0.00	2,334.61	8,534.86	2,016.11	10,546.65	10,140.36	0.54	-0.26	0.236
25.00	-42.72	-27.61	0.00	-2,194.4	0.00	2,194.41	8,333.57	1,968.56	10,055.11	9,665.19	0.85	-0.32	0.232
30.00	-40.84	-27.19	0.00	-2,056.4	0.00	2,056.35	8,132.27	1,921.01	9,575.30	9,201.41	1.22	-0.39	0.229
35.00	-38.99	-26.75	0.00	-1,920.4	0.00	1,920.42	7,930.97	1,873.46	9,107.22	8,749.05	1.67	-0.46	0.225
40.00	-37.21	-26.48	0.00	-1,786.7	0.00	1,786.66	7,729.68	1,825.91	8,650.87	8,308.08	2.19	-0.53	0.220
41.00	-36.84	-26.26	0.00	-1,760.2	0.00	1,760.18	7,689.42	1,816.40	8,561.00	8,221.26	2.3	-0.54	0.219
45.00	-34.42	-25.92	0.00	-1,655.2	0.00	1,655.15	7,528.38	1,778.36	8,206.24	7,878.52	2.77	-0.59	0.215
48.00	-32.63	-25.68	0.00	-1,577.4	0.00	1,577.38	6,014.85	1,431.19	6,643.24	6,347.94	3.16	-0.64	0.254
50.00	-32.05	-25.37	0.00	-1,526.0	0.00	1,526.01	5,967.36	1,415.98	6,502.76	6,230.22	3.43	-0.66	0.251
55.00	-30.65	-24.90	0.00	-1,399.2	0.00	1,399.19	5,833.27	1,377.94	6,158.11	5,925.03	4.17	-0.74	0.242
60.00	-29.28	-24.44	0.00	-1,274.7	0.00	1,274.67	5,672.24	1,339.90	5,822.85	5,600.81	4.99	-0.82	0.233
65.00	-27.95	-23.97	0.00	-1,152.5	0.00	1,152.48	5,511.20	1,301.86	5,496.97	5,285.72	5.89	-0.9	0.223
70.00	-26.65	-23.51	0.00	-1,032.6	0.00	1,032.61	5,350.16	1,263.82	5,180.47	4,979.75	6.87	-0.97	0.213
75.00	-25.38	-23.05	0.00	-915.1	0.00	915.06	5,189.13	1,225.78	4,873.36	4,682.90	7.93	-1.05	0.201
80.00	-24.16	-22.65	0.00	-799.8	0.00	799.84	5,028.09	1,187.74	4,575.63	4,395.18	9.07	-1.12	0.187
83.42	-23.34	-22.42	0.00	-722.4	0.00	722.44	4,918.05	1,161.74	4,377.58	4,203.82	9.89	-1.17	0.177
85.00	-22.76	-22.16	0.00	-686.9	0.00	686.94	4,867.06	1,149.70	4,287.28	4,116.58	10.28	-1.19	0.172
89.00	-21.33	-21.91	0.00	-598.3	0.00	598.30	2,783.63	713.68	2,642.94	2,348.85	11.3	-1.24	0.263
90.00	-21.16	-21.65	0.00	-576.4	0.00	576.39	2,771.67	708.93	2,607.84	2,323.06	11.56	-1.25	0.257
95.00	-20.37	-21.25	0.00	-468.1	0.00	468.14	2,710.57	685.15	2,435.88	2,195.08	12.92	-1.34	0.222
99.00	-17.01	-18.49	0.00	-383.1	0.00	383.12	2,660.10	666.13	2,302.53	2,093.93	14.08	-1.4	0.190
100.00	-16.86	-18.23	0.00	-364.6	0.00	364.64	2,647.26	661.38	2,269.78	2,068.83	14.37	-1.42	0.183
105.00	-16.14	-17.88	0.00	-273.5	0.00	273.47	2,581.73	637.60	2,109.55	1,944.50	15.9	-1.49	0.148
108.08	-15.70	-17.66	0.00	-218.3	0.00	218.34	2,540.22	622.94	2,013.66	1,868.87	16.87	-1.52	0.124
110.00	-10.51	-12.23	0.00	-184.5	0.00	184.50	2,514.00	613.83	1,955.18	1,822.28	17.48	-1.54	0.106
112.92	-9.87	-12.01	0.00	-148.8	0.00	148.82	1,856.34	487.80	1,543.35	1,338.93	18.43	-1.56	0.117
115.00	-9.65	-11.71	0.00	-123.8	0.00	123.80	1,837.80	479.88	1,493.62	1,303.87	19.12	-1.58	0.101
120.00	-5.56	-6.67	0.00	-65.2	0.00	65.23	1,791.74	460.86	1,377.57	1,220.44	20.79	-1.61	0.057
125.00	-5.08	-6.33	0.00	-31.9	0.00	31.89	1,743.46	441.84	1,266.23	1,138.18	22.5	-1.63	0.031
128.20	-4.59	-5.92	0.00	-11.6	0.00	11.64	1,711.41	429.66	1,197.42	1,086.23	23.59	-1.64	0.014
130.00	-0.50	-0.45	0.00	-1.0	0.00	0.98	1,692.98	422.82	1,159.57	1,057.27	24.21	-1.64	0.001
131.80	-0.16	-0.08	0.00	-0.2	0.00	0.17	1,674.26	415.97	1,122.32	1,028.51	24.83	-1.64	0.000
134.00	0.00	-0.07	0.00	0.0	0.00	0.00	1,651.00	407.60	1,077.62	993.65	25.58	-1.64	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi		50 mph wind with 1" radial ice			17 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-89.92	-7.87	0.00	-753.5	0.00	753.52	9,304.68	2,206.31	12,630.11	12,109.07	0	0	0.072
5.00	-86.87	-7.74	0.00	-714.2	0.00	714.17	9,138.75	2,158.76	12,091.65	11,634.30	0.01	-0.02	0.071
10.00	-83.84	-7.62	0.00	-675.5	0.00	675.46	8,937.45	2,111.21	11,564.92	11,124.92	0.04	-0.03	0.070
15.00	-80.85	-7.49	0.00	-637.4	0.00	637.38	8,736.16	2,063.66	11,049.92	10,626.94	0.08	-0.05	0.069
20.00	-77.91	-7.37	0.00	-599.9	0.00	599.93	8,534.86	2,016.11	10,546.65	10,140.36	0.14	-0.07	0.068
25.00	-75.03	-7.24	0.00	-563.1	0.00	563.10	8,333.57	1,968.56	10,055.11	9,665.19	0.22	-0.08	0.067
30.00	-72.21	-7.12	0.00	-526.9	0.00	526.88	8,132.27	1,921.01	9,575.30	9,201.41	0.32	-0.1	0.066
35.00	-69.44	-7.00	0.00	-491.3	0.00	491.26	7,930.97	1,873.46	9,107.22	8,749.05	0.43	-0.12	0.065
40.00	-66.74	-6.92	0.00	-456.3	0.00	456.27	7,729.68	1,825.91	8,650.87	8,308.08	0.56	-0.14	0.064
41.00	-66.20	-6.86	0.00	-449.4	0.00	449.35	7,689.42	1,816.40	8,561.00	8,221.26	0.59	-0.14	0.063
45.00	-62.72	-6.76	0.00	-421.9	0.00	421.93	7,528.38	1,778.36	8,206.24	7,878.52	0.71	-0.15	0.062
48.00	-60.15	-6.69	0.00	-401.6	0.00	401.65	6,014.85	1,431.19	6,643.24	6,347.94	0.81	-0.16	0.073
50.00	-59.26	-6.60	0.00	-388.3	0.00	388.28	5,967.36	1,415.98	6,502.76	6,230.22	0.88	-0.17	0.072
55.00	-57.09	-6.46	0.00	-355.3	0.00	355.30	5,833.27	1,377.94	6,158.11	5,925.03	1.07	-0.19	0.070
60.00	-54.97	-6.33	0.00	-323.0	0.00	323.00	5,672.24	1,339.90	5,822.85	5,600.81	1.28	-0.21	0.067
65.00	-52.90	-6.19	0.00	-291.4	0.00	291.37	5,511.20	1,301.86	5,496.97	5,285.72	1.51	-0.23	0.065
70.00	-50.88	-6.05	0.00	-260.4	0.00	260.42	5,350.16	1,263.82	5,180.47	4,979.75	1.76	-0.25	0.062
75.00	-48.91	-5.92	0.00	-230.2	0.00	230.16	5,189.13	1,225.78	4,873.36	4,682.90	2.03	-0.27	0.059
80.00	-46.99	-5.80	0.00	-200.6	0.00	200.58	5,028.09	1,187.74	4,575.63	4,395.18	2.32	-0.29	0.055
83.42	-45.71	-5.73	0.00	-180.8	0.00	180.77	4,918.05	1,161.74	4,377.58	4,203.82	2.53	-0.3	0.052
85.00	-44.85	-5.65	0.00	-171.7	0.00	171.70	4,867.06	1,149.70	4,287.28	4,116.58	2.63	-0.3	0.051
89.00	-42.72	-5.57	0.00	-149.1	0.00	149.10	2,783.63	713.68	2,642.94	2,348.85	2.89	-0.32	0.079
90.00	-42.46	-5.50	0.00	-143.5	0.00	143.53	2,771.67	708.93	2,607.84	2,323.06	2.96	-0.32	0.077
95.00	-41.15	-5.38	0.00	-116.0	0.00	116.04	2,710.57	685.15	2,435.88	2,195.08	3.31	-0.34	0.068
99.00	-34.91	-4.73	0.00	-94.5	0.00	94.52	2,660.10	666.13	2,302.53	2,093.93	3.6	-0.36	0.058
100.00	-34.66	-4.65	0.00	-89.8	0.00	89.80	2,647.26	661.38	2,269.78	2,068.83	3.67	-0.36	0.057
105.00	-33.43	-4.54	0.00	-66.6	0.00	66.55	2,581.73	637.60	2,109.55	1,944.50	4.06	-0.38	0.047
108.08	-32.70	-4.47	0.00	-52.6	0.00	52.55	2,540.22	622.94	2,013.66	1,868.87	4.31	-0.38	0.041
110.00	-21.41	-2.96	0.00	-44.0	0.00	43.98	2,514.00	613.83	1,955.18	1,822.28	4.46	-0.39	0.033
112.92	-20.41	-2.89	0.00	-35.3	0.00	35.34	1,856.34	487.80	1,543.35	1,338.93	4.7	-0.4	0.037
115.00	-20.00	-2.80	0.00	-29.3	0.00	29.32	1,837.80	479.88	1,493.62	1,303.87	4.87	-0.4	0.033
120.00	-11.60	-1.58	0.00	-15.3	0.00	15.32	1,791.74	460.86	1,377.57	1,220.44	5.3	-0.41	0.019
125.00	-10.70	-1.47	0.00	-7.4	0.00	7.44	1,743.46	441.84	1,266.23	1,138.18	5.73	-0.41	0.013
128.20	-9.75	-1.36	0.00	-2.7	0.00	2.73	1,711.41	429.66	1,197.42	1,086.23	6	-0.41	0.008
130.00	-1.02	-0.13	0.00	-0.3	0.00	0.28	1,692.98	422.82	1,159.57	1,057.27	6.16	-0.41	0.001
131.80	-0.31	-0.03	0.00	-0.1	0.00	0.06	1,674.26	415.97	1,122.32	1,028.51	6.31	-0.41	0.000
134.00	0.00	-0.02	0.00	0.0	0.00	0.00	1,651.00	407.60	1,077.62	993.65	6.5	-0.41	0.000

Load Case: 1.0D + 1.0W 60 mph Wind with No Ice 17 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-58.65	-6.78	0.00	-664.8	0.00	664.76	9,304.68	2,206.31	12,630.11	12,109.07	0	0	0.061
5.00	-56.36	-6.68	0.00	-630.8	0.00	630.84	9,138.75	2,158.76	12,091.65	11,634.30	0.01	-0.01	0.060
10.00	-54.11	-6.58	0.00	-597.4	0.00	597.43	8,937.45	2,111.21	11,564.92	11,124.92	0.03	-0.03	0.060
15.00	-51.91	-6.48	0.00	-564.5	0.00	564.52	8,736.16	2,063.66	11,049.92	10,626.94	0.07	-0.04	0.059
20.00	-49.75	-6.38	0.00	-532.1	0.00	532.12	8,534.86	2,016.11	10,546.65	10,140.36	0.12	-0.06	0.058
25.00	-47.65	-6.29	0.00	-500.2	0.00	500.20	8,333.57	1,968.56	10,055.11	9,665.19	0.19	-0.07	0.057
30.00	-45.59	-6.19	0.00	-468.8	0.00	468.77	8,132.27	1,921.01	9,575.30	9,201.41	0.28	-0.09	0.057
35.00	-43.57	-6.09	0.00	-437.8	0.00	437.81	7,930.97	1,873.46	9,107.22	8,749.05	0.38	-0.1	0.056
40.00	-41.60	-6.03	0.00	-407.4	0.00	407.35	7,729.68	1,825.91	8,650.87	8,308.08	0.5	-0.12	0.054
41.00	-41.21	-5.98	0.00	-401.3	0.00	401.31	7,689.42	1,816.40	8,561.00	8,221.26	0.52	-0.12	0.054
45.00	-38.54	-5.91	0.00	-377.4	0.00	377.39	7,528.38	1,778.36	8,206.24	7,878.52	0.63	-0.14	0.053
48.00	-36.57	-5.85	0.00	-359.7	0.00	359.67	6,014.85	1,431.19	6,643.24	6,347.94	0.72	-0.14	0.063
50.00	-35.94	-5.78	0.00	-348.0	0.00	347.97	5,967.36	1,415.98	6,502.76	6,230.22	0.78	-0.15	0.062
55.00	-34.41	-5.68	0.00	-319.1	0.00	319.07	5,833.27	1,377.94	6,158.11	5,925.03	0.95	-0.17	0.060
60.00	-32.92	-5.57	0.00	-290.7	0.00	290.69	5,672.24	1,339.90	5,822.85	5,600.81	1.14	-0.19	0.058
65.00	-31.46	-5.47	0.00	-262.8	0.00	262.84	5,511.20	1,301.86	5,496.97	5,285.72	1.34	-0.2	0.055
70.00	-30.04	-5.36	0.00	-235.5	0.00	235.52	5,350.16	1,263.82	5,180.47	4,979.75	1.57	-0.22	0.053
75.00	-28.66	-5.25	0.00	-208.7	0.00	208.72	5,189.13	1,225.78	4,873.36	4,682.90	1.81	-0.24	0.050
80.00	-27.31	-5.17	0.00	-182.4	0.00	182.44	5,028.09	1,187.74	4,575.63	4,395.18	2.07	-0.26	0.047
83.42	-26.42	-5.11	0.00	-164.8	0.00	164.79	4,918.05	1,161.74	4,377.58	4,203.82	2.25	-0.27	0.045
85.00	-25.78	-5.05	0.00	-156.7	0.00	156.70	4,867.06	1,149.70	4,287.28	4,116.58	2.34	-0.27	0.043
89.00	-24.20	-5.00	0.00	-136.5	0.00	136.48	2,783.63	713.68	2,642.94	2,348.85	2.58	-0.28	0.067
90.00	-24.02	-4.94	0.00	-131.5	0.00	131.49	2,771.67	708.93	2,607.84	2,323.06	2.64	-0.29	0.065
95.00	-23.17	-4.85	0.00	-106.8	0.00	106.80	2,710.57	685.15	2,435.88	2,195.08	2.95	-0.31	0.057
99.00	-19.38	-4.22	0.00	-87.4	0.00	87.40	2,660.10	666.13	2,302.53	2,093.93	3.21	-0.32	0.049
100.00	-19.22	-4.16	0.00	-83.2	0.00	83.19	2,647.26	661.38	2,269.78	2,068.83	3.28	-0.32	0.048
105.00	-18.42	-4.08	0.00	-62.4	0.00	62.39	2,581.73	637.60	2,109.55	1,944.50	3.62	-0.34	0.039
108.08	-17.94	-4.03	0.00	-49.8	0.00	49.81	2,540.22	622.94	2,013.66	1,868.87	3.85	-0.35	0.034
110.00	-12.02	-2.79	0.00	-42.1	0.00	42.09	2,514.00	613.83	1,955.18	1,822.28	3.99	-0.35	0.028
112.92	-11.32	-2.74	0.00	-34.0	0.00	33.95	1,856.34	487.80	1,543.35	1,338.93	4.2	-0.36	0.031
115.00	-11.06	-2.67	0.00	-28.2	0.00	28.24	1,837.80	479.88	1,493.62	1,303.87	4.36	-0.36	0.028
120.00	-6.38	-1.52	0.00	-14.9	0.00	14.88	1,791.74	460.86	1,377.57	1,220.44	4.74	-0.37	0.016
125.00	-5.83	-1.44	0.00	-7.3	0.00	7.28	1,743.46	441.84	1,266.23	1,138.18	5.13	-0.37	0.010
128.20	-5.28	-1.35	0.00	-2.7	0.00	2.66	1,711.41	429.66	1,197.42	1,086.23	5.38	-0.37	0.006
130.00	-0.57	-0.10	0.00	-0.2	0.00	0.22	1,692.98	422.82	1,159.57	1,057.27	5.52	-0.37	0.001
131.80	-0.18	-0.02	0.00	-0.0	0.00	0.04	1,674.26	415.97	1,122.32	1,028.51	5.66	-0.37	0.000
134.00	0.00	-0.02	0.00	0.0	0.00	0.00	1,651.00	407.60	1,077.62	993.65	5.83	-0.37	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.211
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.225
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.086
Seismic Response Coefficient (C_s):	0.039
Upper Limit C_S:	0.039
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	1.480
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.490
Total Unfactored Dead Load:	58.650 k
Seismic Base Shear (E):	2.290 k

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	132.9	176	254	0.007	15	219
35	130.9	146	207	0.006	13	182
34	129.1	190	263	0.007	16	236
33	126.6	343	463	0.012	28	428
32	122.5	552	708	0.019	43	687
31	117.5	595	718	0.019	43	741
30	113.9583	254	292	0.008	18	316
29	111.4583	704	784	0.021	47	876
28	109.0417	480	518	0.014	31	598
27	106.5417	479	499	0.013	30	596
26	102.5	795	783	0.021	47	990
25	99.5	162	152	0.004	9	201
24	97	664	602	0.016	36	827
23	92.5	851	719	0.019	43	1,059
22	89.5	173	139	0.004	8	215
21	87	1,581	1,219	0.032	74	1,968
20	84.2083	636	467	0.012	28	792
19	81.7083	898	631	0.017	38	1,118
18	77.5	1,345	873	0.023	53	1,674
17	72.5	1,382	812	0.021	49	1,720
16	67.5	1,419	750	0.020	45	1,766
15	62.5	1,455	686	0.018	41	1,812
14	57.5	1,492	621	0.016	37	1,858
13	52.5	1,529	556	0.015	34	1,904
12	49	622	204	0.005	12	774
11	46.5	1,970	598	0.016	36	2,453
10	43	2,673	722	0.019	44	3,328
9	40.5	388	96	0.002	6	483
8	37.5	1,968	434	0.011	26	2,450
7	32.5	2,014	359	0.010	22	2,508
6	27.5	2,060	286	0.008	17	2,565
5	22.5	2,106	217	0.006	13	2,623
4	17.5	2,153	153	0.004	9	2,680
3	12.5	2,199	94	0.002	6	2,737

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
2	7.5	2,245	45	0.001	3	2,795
1	2.5	2,291	9	0.000	1	2,852
Ericsson AIR 6449 n77D	131.8	245	350	0.009	21	305
Kaelus DBC0051F3V51-2	130	74	104	0.003	6	93
Raycap DC6-48-60-18-8F	130	20	28	0.001	2	25
Ericsson RRUS 8843 B2, B66A	130	216	303	0.008	18	269
Ericsson RRUS 4426 B66	130	97	136	0.004	8	121
Ericsson RRUS 4449 B5, B12	130	142	199	0.005	12	177
Ericsson RRUS 4449 B5, B12	130	142	199	0.005	12	177
Ericsson RRUS 32 B2	130	106	149	0.004	9	132
Ericsson RRUS E2 B29	130	180	252	0.007	15	224
Ericsson RRUS-32 B30 (77 lbs)	130	231	324	0.008	20	288
Raycap DC9-48-60-24-8C-EV	130	16	22	0.001	1	20
Raycap DC9-48-60-24-8C-EV	130	32	45	0.001	3	40
Matsing MBA-3.2-H4-L4	130	130	182	0.005	11	162
CCI DMP65R-BU8D	130	191	268	0.007	16	238
Quintel QD8616-7	130	450	631	0.017	38	560
Generic Flat Platform with Handrails	130	2,500	3,505	0.092	211	3,113
Generic Flat Platform with Handrails	120	2,500	3,111	0.082	188	3,113
Generic Flat Platform with Handrails	99	2,500	2,337	0.062	141	3,113
Ericsson AIR 6419 N77G	128.2	210	288	0.008	17	261
PCTEL GPS-TMG-HR-26N	120	1	1	0.000	0	1
DragonWave Airpair (Radio-7.5" diameter)	120	21	26	0.001	2	26
RFS IBC1900HG-2A	120	66	82	0.002	5	82
RFS IBC1900BB-1	120	66	82	0.002	5	82
Motorola PTP-600	120	12	15	0.000	1	15
MTI Wireless Edge MT-485025/NVH	120	6	7	0.000	0	7
Alcatel-Lucent 800 MHz RRH	120	159	198	0.005	12	198
Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield	120	360	448	0.012	27	448
Generic Nilko 500mm x 500mm x 600 mm BTS	120	90	112	0.003	7	112
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	120	210	261	0.007	16	261
Commscope VHLP2-18-1WH/C	120	51	63	0.002	4	63
RFS APXVTM14-ALU-I20	120	169	210	0.006	13	210
Generic Mount Reinforcement	120	200	249	0.007	15	249
RFS APXVSPP18-C-A20 (62 lbs)	120	186	231	0.006	14	232
Ericsson Radio 4478 B71	110	240	262	0.007	16	299
Ericsson RRUS 11 B4	110	203	222	0.006	13	252
Ericsson RRUS 11 B12	110	203	222	0.006	13	252
Ericsson AIR32 B4A B2P	110	423	463	0.012	28	527
Andrew DBXNH-6565B-A2M	110	185	202	0.005	12	231
RFS APXVAA24_43-U-A20	110	406	443	0.012	27	505
Generic Square Platform with Handrails	110	3,790	4,144	0.109	250	4,719
Raycap RDIDC-9181-PF-48	99	22	20	0.000	1	27
Fujitsu TA08025-B605	99	225	210	0.006	13	280
Fujitsu TA08025-B604	99	192	179	0.005	11	239
JMA Wireless MX08FRO665-21	99	194	181	0.005	11	241
		58,649	37,903	1.000	2,287	73,019

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	132.9	176	254	0.007	15	150
35	130.9	146	207	0.006	13	125
34	129.1	190	263	0.007	16	162
33	126.6	343	463	0.012	28	294
32	122.5	552	708	0.019	43	472
31	117.5	595	718	0.019	43	509
30	113.9583	254	292	0.008	18	217
29	111.4583	704	784	0.021	47	602
28	109.0417	480	518	0.014	31	410
27	106.5417	479	499	0.013	30	409

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
26	102.5	795	783	0.021	47	680
25	99.5	162	152	0.004	9	138
24	97	664	602	0.016	36	568
23	92.5	851	719	0.019	43	727
22	89.5	173	139	0.004	8	148
21	87	1,581	1,219	0.032	74	1,351
20	84.2083	636	467	0.012	28	544
19	81.7083	898	631	0.017	38	768
18	77.5	1,345	873	0.023	53	1,150
17	72.5	1,382	812	0.021	49	1,181
16	67.5	1,419	750	0.020	45	1,213
15	62.5	1,455	686	0.018	41	1,244
14	57.5	1,492	621	0.016	37	1,276
13	52.5	1,529	556	0.015	34	1,307
12	49	622	204	0.005	12	532
11	46.5	1,970	598	0.016	36	1,685
10	43	2,673	722	0.019	44	2,286
9	40.5	388	96	0.002	6	332
8	37.5	1,968	434	0.011	26	1,683
7	32.5	2,014	359	0.010	22	1,722
6	27.5	2,060	286	0.008	17	1,762
5	22.5	2,106	217	0.006	13	1,801
4	17.5	2,153	153	0.004	9	1,840
3	12.5	2,199	94	0.002	6	1,880
2	7.5	2,245	45	0.001	3	1,919
1	2.5	2,291	9	0.000	1	1,959
Ericsson AIR 6449 n77D	131.8	245	350	0.009	21	209
Kaelus DBC0051F3V51-2	130	74	104	0.003	6	64
Raycap DC6-48-60-18-8F	130	20	28	0.001	2	17
Ericsson RRUS 8843 B2, B66A	130	216	303	0.008	18	185
Ericsson RRUS 4426 B66	130	97	136	0.004	8	83
Ericsson RRUS 4449 B5, B12	130	142	199	0.005	12	121
Ericsson RRUS 4449 B5, B12	130	142	199	0.005	12	121
Ericsson RRUS 32 B2	130	106	149	0.004	9	91
Ericsson RRUS E2 B29	130	180	252	0.007	15	154
Ericsson RRUS-32 B30 (77 lbs)	130	231	324	0.008	20	198
Raycap DC9-48-60-24-8C-EV	130	16	22	0.001	1	14
Raycap DC9-48-60-24-8C-EV	130	32	45	0.001	3	27
Matsing MBA-3.2-H4-L4	130	130	182	0.005	11	111
CCI DMP65R-BU8D	130	191	268	0.007	16	164
Quintel QD8616-7	130	450	631	0.017	38	385
Generic Flat Platform with Handrails	130	2,500	3,505	0.092	211	2,137
Generic Flat Platform with Handrails	120	2,500	3,111	0.082	188	2,137
Generic Flat Platform with Handrails	99	2,500	2,337	0.062	141	2,137
Ericsson AIR 6419 N77G	128.2	210	288	0.008	17	180
PCTEL GPS-TMG-HR-26N	120	1	1	0.000	0	1
DragonWave Airpair (Radio-7.5" diameter)	120	21	26	0.001	2	18
RFS IBC1900HG-2A	120	66	82	0.002	5	56
RFS IBC1900BB-1	120	66	82	0.002	5	56
Motorola PTP-600	120	12	15	0.000	1	10
MTI Wireless Edge MT-485025/NVH	120	6	7	0.000	0	5
Alcatel-Lucent 800 MHz RRH	120	159	198	0.005	12	136
Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield	120	360	448	0.012	27	308
Generic Nilko 500mm x 500mm x 600 mm BTS	120	90	112	0.003	7	77
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	120	210	261	0.007	16	180
Commscope VHLP2-18-1WH/C	120	51	63	0.002	4	44
RFS APXVTM14-ALU-I20	120	169	210	0.006	13	144
Generic Mount Reinforcement	120	200	249	0.007	15	171
RFS APXVSPP18-C-A20 (62 lbs)	120	186	231	0.006	14	159
Ericsson Radio 4478 B71	110	240	262	0.007	16	205
Ericsson RRUS 11 B4	110	203	222	0.006	13	173
Ericsson RRUS 11 B12	110	203	222	0.006	13	173
Ericsson AIR32 B4A B2P	110	423	463	0.012	28	362
Andrew DBXNH-6565B-A2M	110	185	202	0.005	12	158
RFS APXVAA24_43-U-A20	110	406	443	0.012	27	347
Generic Square Platform with Handrails	110	3,790	4,144	0.109	250	3,240
Raycap RDIDC-9181-PF-48	99	22	20	0.000	1	19
Fujitsu TA08025-B605	99	225	210	0.006	13	192
Fujitsu TA08025-B604	99	192	179	0.005	11	164

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
JMA Wireless MX08FRO665-21	99	194	181	0.005	11	165
		58,649	37,903	1.000	2,287	50,144

1.2D + 1.0Ev + 1.0Eh **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.17	-2.29	0.00	-234.88	0.00	234.88	9,304.68	2,206.31	12,630	12,109.07	0.00	0.00	0.03
5.00	-67.37	-2.29	0.00	-223.44	0.00	223.44	9,138.75	2,158.76	12,092	11,634.30	0.00	-0.01	0.03
10.00	-64.63	-2.29	0.00	-211.98	0.00	211.98	8,937.45	2,111.21	11,565	11,124.92	0.01	-0.01	0.03
15.00	-61.95	-2.29	0.00	-200.53	0.00	200.53	8,736.16	2,063.66	11,050	10,626.94	0.02	-0.02	0.03
20.00	-59.33	-2.28	0.00	-189.09	0.00	189.09	8,534.86	2,016.11	10,547	10,140.36	0.04	-0.02	0.03
25.00	-56.77	-2.27	0.00	-177.70	0.00	177.70	8,333.57	1,968.56	10,055	9,665.19	0.07	-0.03	0.03
30.00	-54.26	-2.25	0.00	-166.37	0.00	166.37	8,132.27	1,921.01	9,575	9,201.41	0.10	-0.03	0.03
35.00	-51.81	-2.23	0.00	-155.13	0.00	155.13	7,930.97	1,873.46	9,107	8,749.05	0.13	-0.04	0.02
40.00	-51.32	-2.22	0.00	-144.00	0.00	144.00	7,729.68	1,825.91	8,651	8,308.08	0.18	-0.04	0.02
41.00	-48.00	-2.18	0.00	-141.78	0.00	141.78	7,689.42	1,816.40	8,561	8,221.26	0.19	-0.04	0.02
45.00	-45.54	-2.14	0.00	-133.06	0.00	133.06	7,528.38	1,778.36	8,206	7,878.52	0.22	-0.05	0.02
48.00	-44.77	-2.13	0.00	-126.63	0.00	126.63	6,014.85	1,431.19	6,643	6,347.94	0.26	-0.05	0.03
50.00	-42.86	-2.10	0.00	-122.37	0.00	122.37	5,967.36	1,415.98	6,503	6,230.22	0.28	-0.05	0.03
55.00	-41.01	-2.07	0.00	-111.87	0.00	111.87	5,833.27	1,377.94	6,158	5,925.03	0.34	-0.06	0.03
60.00	-39.19	-2.03	0.00	-101.54	0.00	101.54	5,672.24	1,339.90	5,823	5,600.81	0.40	-0.07	0.03
65.00	-37.43	-1.98	0.00	-91.40	0.00	91.40	5,511.20	1,301.86	5,497	5,285.72	0.48	-0.07	0.02
70.00	-35.71	-1.94	0.00	-81.49	0.00	81.49	5,350.16	1,263.82	5,180	4,979.75	0.55	-0.08	0.02
75.00	-34.03	-1.88	0.00	-71.81	0.00	71.81	5,189.13	1,225.78	4,873	4,682.90	0.64	-0.08	0.02
80.00	-32.91	-1.85	0.00	-62.39	0.00	62.39	5,028.09	1,187.74	4,576	4,395.18	0.73	-0.09	0.02
83.42	-32.12	-1.82	0.00	-56.08	0.00	56.08	4,918.05	1,161.74	4,378	4,203.82	0.80	-0.09	0.02
85.00	-30.15	-1.74	0.00	-53.20	0.00	53.20	4,867.06	1,149.70	4,287	4,116.58	0.83	-0.10	0.02
89.00	-29.94	-1.74	0.00	-46.22	0.00	46.22	2,783.63	713.68	2,643	2,348.85	0.91	-0.10	0.03
90.00	-28.88	-1.69	0.00	-44.48	0.00	44.48	2,771.67	708.93	2,608	2,323.06	0.93	-0.10	0.03
95.00	-28.05	-1.66	0.00	-36.02	0.00	36.02	2,710.57	685.15	2,436	2,195.08	1.04	-0.11	0.03
99.00	-23.95	-1.47	0.00	-29.38	0.00	29.38	2,660.10	666.13	2,303	2,093.93	1.13	-0.11	0.02
100.00	-22.96	-1.42	0.00	-27.92	0.00	27.92	2,647.26	661.38	2,270	2,068.83	1.15	-0.11	0.02
105.00	-22.37	-1.39	0.00	-20.83	0.00	20.83	2,581.73	637.60	2,110	1,944.50	1.28	-0.12	0.02
108.08	-21.77	-1.36	0.00	-16.55	0.00	16.55	2,540.22	622.94	2,014	1,868.87	1.35	-0.12	0.02
110.00	-14.11	-0.93	0.00	-13.95	0.00	13.95	2,514.00	613.83	1,955	1,822.28	1.40	-0.12	0.01
112.92	-13.79	-0.92	0.00	-11.22	0.00	11.22	1,856.34	487.80	1,543	1,338.93	1.48	-0.12	0.02
115.00	-13.05	-0.87	0.00	-9.31	0.00	9.31	1,837.80	479.88	1,494	1,303.87	1.53	-0.13	0.01
120.00	-7.27	-0.51	0.00	-4.95	0.00	4.95	1,791.74	460.86	1,378	1,220.44	1.66	-0.13	0.01
125.00	-6.84	-0.48	0.00	-2.41	0.00	2.41	1,743.46	441.84	1,266	1,138.18	1.80	-0.13	0.01
128.20	-6.34	-0.45	0.00	-0.87	0.00	0.87	1,711.41	429.66	1,197	1,086.23	1.88	-0.13	0.01
130.00	-0.52	-0.04	0.00	-0.07	0.00	0.07	1,692.98	422.82	1,160	1,057.27	1.93	-0.13	0.00
131.80	0.00	0.00	0.00	0.00	0.00	0.00	1,674.26	415.97	1,122	1,028.51	1.98	-0.13	0.00
134.00	0.00	0.00	0.00	0.00	0.00	0.00	1,651.00	407.60	1,078	993.65	2.04	-0.13	0.00

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-48.19	-2.29	0.00	-233.41	0.00	233.41	9,304.68	2,206.31	12,630	12,109.07	0.00	0.00	0.02
5.00	-46.27	-2.29	0.00	-221.98	0.00	221.98	9,138.75	2,158.76	12,092	11,634.30	0.00	-0.01	0.02
10.00	-44.39	-2.29	0.00	-210.53	0.00	210.53	8,937.45	2,111.21	11,565	11,124.92	0.01	-0.01	0.02
15.00	-42.55	-2.28	0.00	-199.10	0.00	199.10	8,736.16	2,063.66	11,050	10,626.94	0.02	-0.02	0.02
20.00	-40.74	-2.27	0.00	-187.69	0.00	187.69	8,534.86	2,016.11	10,547	10,140.36	0.04	-0.02	0.02
25.00	-38.98	-2.26	0.00	-176.34	0.00	176.34	8,333.57	1,968.56	10,055	9,665.19	0.07	-0.03	0.02
30.00	-37.26	-2.24	0.00	-165.05	0.00	165.05	8,132.27	1,921.01	9,575	9,201.41	0.10	-0.03	0.02
35.00	-35.58	-2.21	0.00	-153.87	0.00	153.87	7,930.97	1,873.46	9,107	8,749.05	0.13	-0.04	0.02
40.00	-35.25	-2.21	0.00	-142.80	0.00	142.80	7,729.68	1,825.91	8,651	8,308.08	0.18	-0.04	0.02

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
41.00	-32.96	-2.17	0.00	-140.59	0.00	140.59	7,689.42	1,816.40	8,561	8,221.26	0.18	-0.04	0.02
45.00	-31.27	-2.13	0.00	-131.92	0.00	131.92	7,528.38	1,778.36	8,206	7,878.52	0.22	-0.05	0.02
48.00	-30.74	-2.12	0.00	-125.53	0.00	125.53	6,014.85	1,431.19	6,643	6,347.94	0.25	-0.05	0.03
50.00	-29.44	-2.09	0.00	-121.29	0.00	121.29	5,967.36	1,415.98	6,503	6,230.22	0.28	-0.05	0.02
55.00	-28.16	-2.05	0.00	-110.85	0.00	110.85	5,833.27	1,377.94	6,158	5,925.03	0.33	-0.06	0.02
60.00	-26.91	-2.01	0.00	-100.60	0.00	100.60	5,672.24	1,339.90	5,823	5,600.81	0.40	-0.07	0.02
65.00	-25.70	-1.97	0.00	-90.54	0.00	90.54	5,511.20	1,301.86	5,497	5,285.72	0.47	-0.07	0.02
70.00	-24.52	-1.92	0.00	-80.70	0.00	80.70	5,350.16	1,263.82	5,180	4,979.75	0.55	-0.08	0.02
75.00	-23.37	-1.87	0.00	-71.10	0.00	71.10	5,189.13	1,225.78	4,873	4,682.90	0.64	-0.08	0.02
80.00	-22.60	-1.83	0.00	-61.76	0.00	61.76	5,028.09	1,187.74	4,576	4,395.18	0.73	-0.09	0.02
83.42	-22.06	-1.80	0.00	-55.51	0.00	55.51	4,918.05	1,161.74	4,378	4,203.82	0.79	-0.09	0.02
85.00	-20.71	-1.73	0.00	-52.66	0.00	52.66	4,867.06	1,149.70	4,287	4,116.58	0.82	-0.09	0.02
89.00	-20.56	-1.72	0.00	-45.74	0.00	45.74	2,783.63	713.68	2,643	2,348.85	0.90	-0.10	0.03
90.00	-19.83	-1.68	0.00	-44.03	0.00	44.03	2,771.67	708.93	2,608	2,323.06	0.92	-0.10	0.03
95.00	-19.26	-1.64	0.00	-35.64	0.00	35.64	2,710.57	685.15	2,436	2,195.08	1.03	-0.11	0.02
99.00	-16.45	-1.45	0.00	-29.08	0.00	29.08	2,660.10	666.13	2,303	2,093.93	1.12	-0.11	0.02
100.00	-15.77	-1.40	0.00	-27.63	0.00	27.63	2,647.26	661.38	2,270	2,068.83	1.15	-0.11	0.02
105.00	-15.36	-1.37	0.00	-20.61	0.00	20.61	2,581.73	637.60	2,110	1,944.50	1.27	-0.12	0.02
108.08	-14.95	-1.34	0.00	-16.37	0.00	16.37	2,540.22	622.94	2,014	1,868.87	1.34	-0.12	0.02
110.00	-9.69	-0.92	0.00	-13.80	0.00	13.80	2,514.00	613.83	1,955	1,822.28	1.39	-0.12	0.01
112.92	-9.47	-0.91	0.00	-11.10	0.00	11.10	1,856.34	487.80	1,543	1,338.93	1.46	-0.12	0.01
115.00	-8.96	-0.86	0.00	-9.22	0.00	9.22	1,837.80	479.88	1,494	1,303.87	1.52	-0.12	0.01
120.00	-4.99	-0.50	0.00	-4.90	0.00	4.90	1,791.74	460.86	1,378	1,220.44	1.65	-0.13	0.01
125.00	-4.70	-0.48	0.00	-2.38	0.00	2.38	1,743.46	441.84	1,266	1,138.18	1.78	-0.13	0.01
128.20	-4.35	-0.44	0.00	-0.86	0.00	0.86	1,711.41	429.66	1,197	1,086.23	1.87	-0.13	0.00
130.00	-0.36	-0.04	0.00	-0.07	0.00	0.07	1,692.98	422.82	1,160	1,057.27	1.92	-0.13	0.00
131.80	0.00	0.00	0.00	0.00	0.00	0.00	1,674.26	415.97	1,122	1,028.51	1.97	-0.13	0.00
134.00	0.00	0.00	0.00	0.00	0.00	0.00	1,651.00	407.60	1,078	993.65	2.02	-0.13	0.00

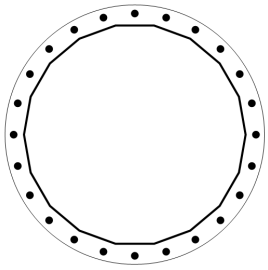
ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	29.84	0.00	70.36	0.00	0.00	2932.47	89.00	0.27
0.9D + 1.0W	29.83	0.00	52.77	0.00	0.00	2917.56	89.00	0.26
1.2D + 1.0Di + 1.0Wi	7.87	0.00	89.92	0.00	0.00	753.52	89.00	0.08
1.2D + 1.0Ev + 1.0Eh	2.29	0.00	70.17	0.00	0.00	234.88	89.00	0.03
0.9D - 1.0Ev + 1.0Eh	2.29	0.00	48.19	0.00	0.00	233.41	89.00	0.03
1.0D + 1.0W	6.78	0.00	58.65	0.00	0.00	664.76	89.00	0.07

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 10193)

Diameter:	75.5	in
Shape:	Round	
Thickness:	3	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Rod Detail Type:	d	
Clear Distance	3	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	270	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 1056]	Radial	24	2.25	70.5	A615-75	75	100	-	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (24) 2.25"ø [ID 1056]

GEOMETRY AND APPLIED LOADS (UNFACTORED)

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.262	34.05	9.12	32.781	3490.811	74.12	0.51
2	0.524	30.53	17.62	29.391	2806.243	74.12	0.98
3	0.785	24.93	24.93	23.997	1871.110	74.12	1.39
4	1.047	17.62	30.53	16.969	935.973	74.12	1.70
5	1.309	9.12	34.05	8.784	251.408	74.12	1.90
6	1.571	0.00	35.25	0.000	0.839	74.12	1.96
7	1.833	-9.12	34.05	-8.784	251.408	-62.39	1.90
8	2.094	-17.62	30.53	-16.969	935.974	-62.39	1.70
9	2.356	-24.93	24.93	-23.997	1871.107	-62.39	1.39
10	2.618	-30.53	17.62	-29.391	2806.244	-62.39	0.98
11	2.880	-34.05	9.12	-32.781	3490.809	-62.39	0.51
12	3.142	-35.25	0.00	-33.938	3741.378	-62.39	0.00
13	3.403	-34.05	-9.12	-32.781	3490.810	-62.39	0.51
14	3.665	-30.53	-17.62	-29.391	2806.245	-62.39	0.98
15	3.927	-24.93	-24.93	-23.997	1871.108	-62.39	1.39
16	4.189	-17.62	-30.53	-16.969	935.975	-62.39	1.70
17	4.451	-9.12	-34.05	-8.784	251.407	-62.39	1.90
18	4.712	0.00	-35.25	0.000	0.839	74.12	1.96
19	4.974	9.12	-34.05	8.784	251.407	74.12	1.90
20	5.236	17.62	-30.53	16.969	935.975	74.12	1.70
21	5.498	24.93	-24.93	23.997	1871.108	74.12	1.39
22	5.760	30.53	-17.62	29.391	2806.245	74.12	0.98
23	6.021	34.05	-9.12	32.781	3490.810	74.12	0.51
24	6.283	35.25	0.00	33.938	3741.378	74.12	0.00

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	64"ø x 0.625" (18 Sides)	2932.5	70.36	29.84	1.000
Bolt Group	Original (24) 2.25"ø	2932.5	-	29.84	1.000
	TOTALS	**2932.47**	**70.36**	**29.84**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	64"ø x 0.625" (18 Sides)	123.8057	-	-	62172.72	-
Bolt Group	Original (24) 2.25"ø	3.9761	3.2477	0.8393	44906.61	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	64.12	in
Point-to-Point Diameter:	65.11	in
Flat Width:	11.307	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	270	°
Bend Line Lower Limit:	5.862	rad
Bend Line Upper Limit:	0.422	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	36.711	0.00	82.600	291.6	3717.0	0.078
Corner	34.927	0.00	78.585	162.0	3536.3	0.046
Circumferential	41.305	0.00	92.937	361.7	4182.2	0.086

PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	24	2.25	74.1	2.0	243.6	0.320

March 14, 2022 (Rev.1)
October 7, 2021

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT5100 (C-BAND SPLIT SECTOR)
	FA Number:	10107972
	PACE Number:	MRCTB050816
	PT Number:	2051A0Z7KX
	Site Name:	BRIDGEPORT EVERGREEN ST
	Site Address:	220 Evergreen Street Bridgeport, CT 06606

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI Communications to perform a mount analysis on the existing AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (2) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)
- (1) MS-MBA-3.2-H4-L4 Antennas (72.0"x24.0"x25.0" – Wt. = 130 lbs. /each)
- (6) DBC0051F3V51-2 Diplexers (8.0"x6.2"x6.5" - Wt. = 26 lbs. /each)
- (3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (2) 4426 B66 RRH's (14.9"x13.2"x5.8" – Wt. = 49 lbs. /each)
- (2) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) RRUS-32 B30 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) RRUS-E2 B29 RRH's (20.4"x18.5"x7.5"– Wt. = 53 lbs. /each)
- (2) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each) (separate mount)
- (3) 8843 B2/B66A RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each) (Separated Mount)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs.)
- **(3) QD8616- 7 Antennas (96.0"x22.0"x9.6" – Wt. = 68 lbs. /each)**
- **(3) AIR 6449 Antennas (30.6"x15.9"x10.6" – Wt. = 82 lbs. /each)**
- **(3) AIR 6419 Antennas (31.0"x16.1"x7.3" – Wt. = 66 lbs. /each)**
- **(2) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)**
- **(3) Squid Surge Arrestors (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mount on September 8, 2019. HDG conducted a ground audit on the existing antenna mount on February 3, 2021.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R16.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.15 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_S, of 0.215 and a spectral response acceleration parameter at a period of 1 second, S_1, of 0.065.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mounts are secured to the existing monopole with ring mounts and threaded rods. HDG considers the threaded rods to be the governing connection member.

Based on our evaluation, we have determined that the existing mount **IS CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	34	LC5	72%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC dated September 30, 2019.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Vice President

STATE OF CONNECTICUT
DANIEL HAMM
PROFESSIONAL ENGINEER

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:

FIELD PHOTOS (CONT.):

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

$K_z = 2.01\ (z/z_g)^{2/\alpha}$

		z=	130 (ft)
		z_g=	1200 (ft)
K_z=	**1.065**	α=	7.0

Kzmin ≤ Kz ≤ 2.01

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$K_{zt} = [1+(K_c\ K_t/K_h)]^2$

$K_h = e^{(f*z/H)}$

K_{zt}=	**1**	K_h=	1
		K_c=	0.9 (from Table 2-4)
(If Category 1 then K_{zt}=1.0)		K_t=	(from Table 2-5)
		f=	(from Table 2-5)
Category=	1	z=	130
		z_s=	15 (Mean elevation of base of structure above sea level)
		H=	(Ht. of the crest above surrounding terrain)
		K_{zt}=	1.00 (from 2.6.6.2.1)
		K_e=	1.00 (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =		t_i =	1.00 in
Importance Factor =		I=	1.00 (from Table 2-3)
		K_{iz} =	1.15 (from Sec. 2.6.10)

$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$

t_{iz} = 1.15 in

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

G_h = 0.85 + 0.15 [h/150 - 3.0] h= ht. of structure

h=	135	G_h=	0.85

2.6.9.2 Guyed Masts G_h= 0.85

2.6.9.3 Pole Structures G_h= 1.1

2.6.9 Appurtenances G_h= 1.0

2.6.9.4 Structures Supported on Other Structures
(Cantilivered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

G_h=	1.35	**Gh=**	**1.00**

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

		K_z=	1.065	(from 2.6.5.2)
		K_{zt}=	1.0	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	**40.45**	K_e=	1.00	(from 2.6.8)
$q_{z\ (ice)}$=	**6.47**	K_d=	0.95	(from Table 2-2)
$q_{z\ (30)}$=	**2.33**	V_{max}=	125	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r_s) ≥ 0.85	1.4 - 4.0(r_s) ≥ 0.90	2.0 - 6.0(r_s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = 1.15 in | **Angle =** 0 (deg) | **Equivalent Angle =** 180 (deg)

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
QD8616-7 Antenna	92.0	22.0	9.6	14.06	4.18	1.27	725	131	42
AIR 6449 Antenna	30.6	15.9	10.6	3.38	1.92	1.20	164	32	9
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.93	1.20	168	33	10
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	723	132	42
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	3.00	1.22	593	107	34
4478 B14 RRH	18.1	13.4	8.3	1.68	1.35	1.20	82	17	5
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	0.00	1.20	0	3	0
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.36	1.20	80	17	5
4449 B5/B12 RRH (Shielded)	17.9	0.0	9.4	0.00	0.00	1.20	0	2	0
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.10	1.20	127	25	7
RRUS-E2 B29 RRH (Side)	20.4	7.5	18.5	1.06	2.72	1.21	52	12	3
RRUS-E2 B29 RRH (Side) (Side)	20.4	3.8	18.5	0.53	5.44	1.33	29	8	2
4426 B66 RRH	14.9	13.2	5.8	1.37	1.13	1.20	66	14	4
4426 B66 RRH (Side)	14.9	5.8	13.2	0.60	2.57	1.20	29	8	2
4426 B66 RRH (Side) (Side) (Shielded)	14.9	2.9	13.2	0.30	5.14	1.32	16	5	1
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	2.25	1.20	111	23	6
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	3.89	1.26	67	16	4
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	2.25	1.20	111	23	6
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.20	66	14	4
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	1.29	1.20	17	5	1
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	46	10	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	10		
3-1/2" Pipe	4.0	12.0		0.33	0.33	1.20	16		
C 3-3/8x2-1/8	3.4	12.0		0.28	0.28	2.00	23		
2x2 Angle	2.0	12.0		0.17	0.17	2.00	13		
3x3 Angle	3.0	12.0		0.25	0.25	2.00	20		
PL 6x3/8	0.4	12.0		0.03	0.03	2.00	3		

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 30 (deg) | Ice Thickness = 1.15 in. | Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	725	369	636
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	164	111	151
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	168	81	146
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	329	624
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	599
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	74
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	41	51	44
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	74
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	40	57	44
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	64	127	80
RRUS-E2 B29 RRH (Side) (Side)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	34	127	57
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	57
4426 B66 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	33	66	41
4426 B66 RRH (Side) (Side) (Shielde	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	18	66	30
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	67	111	78
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	63
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	17	18	17

WIND LOADS WITH ICE:

QD8616-7 Antenna	94.3	24.3	11.9	15.91	7.79	3.88	7.93	1.26	1.43	130	72	115
AIR 6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	32	23	30
AIR 6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	33	18	29
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	114
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	108
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	16
4478 B14 RRH (Shielded)	20.4	7.8	10.6	1.11	1.50	2.60	1.93	1.20	1.20	9	12	9
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	16
4449 B5/B12 RRH (Shielded)	20.2	7.7	11.7	1.09	1.64	2.61	1.73	1.20	1.20	8	13	10
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-E2 B29 RRH (Side)	22.7	10.4	20.8	1.64	3.28	2.18	1.09	1.20	1.20	13	25	16
RRUS-E2 B29 RRH (Side) (Side)	22.7	5.2	20.8	0.82	3.28	4.37	1.09	1.28	1.20	7	25	11
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	13
4426 B66 RRH (Side)	17.2	7.7	15.5	0.93	1.85	2.22	1.11	1.20	1.20	7	14	9
4426 B66 RRH (Side) (Side) (Shielde	17.2	3.9	15.5	0.46	1.85	4.44	1.11	1.29	1.20	4	14	6
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
RRUS-32 B2 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	15	23	17
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	14
DBC0051F3V51-2 Diplexer	10.3	8.5	8.8	0.61	0.63	1.21	1.17	1.20	1.20	5	5	5

WIND LOADS AT 30 MPH:

QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	42	21	37
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	9
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	10	5	8
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	36
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	34
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	2	3	3
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	4	7	5
RRUS-E2 B29 RRH (Side) (Side)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	2	7	3
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	3
4426 B66 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	4	2
4426 B66 RRH (Side) (Side) (Shielde	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	1	4	2
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	6	5
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	1	1	1

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	725	369	458
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	164	111	124
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	168	81	103
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	329	427
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	610
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	58
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	61	51	53
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	62
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	60	57	57
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
RRUS-E2 B29 RRH (Side) (Side)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	72	127	113
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	38
4426 B66 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	50	66	62
4426 B66 RRH (Side) (Side) (Shielde	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	37	66	59
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	67	111	100
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	58
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	17	18	17

WIND LOADS WITH ICE:

QD8616-7 Antenna	94.3	24.3	11.9	15.91	7.79	3.88	7.93	1.26	1.43	130	72	87
AIR 6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	32	23	25
AIR 6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	33	18	22
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	82
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	109
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	13
4478 B14 RRH (Shielded)	20.4	11.8	10.6	1.67	1.50	1.73	1.93	1.20	1.20	13	12	12
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	14
4449 B5/B12 RRH (Shielded)	20.2	11.6	11.7	1.63	1.64	1.74	1.73	1.20	1.20	13	13	13
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-E2 B29 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
RRUS-E2 B29 RRH (Side) (Side)	22.7	11.7	20.8	1.84	3.28	1.94	1.09	1.20	1.20	14	25	23
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	9
4426 B66 RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.11	1.20	1.20	11	14	13
4426 B66 RRH (Side) (Side) (Shielde	17.2	8.7	15.5	1.04	1.85	1.97	1.11	1.20	1.20	8	14	13
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-32 B2 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	15	23	21
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	13
DBC0051F3V51-2 Diplexer	10.3	8.5	8.8	0.61	0.63	1.21	1.17	1.20	1.20	5	5	5

WIND LOADS AT 30 MPH:

QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	42	21	26
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	7
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	10	5	6
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	25
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	35
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	3	3	3
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
RRUS-E2 B29 RRH (Side) (Side)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	4	7	7
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	2
4426 B66 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	3	4	4
4426 B66 RRH (Side) (Side) (Shielde	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	2	4	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	6	6
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	1	1	1

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 90 (deg) | Ice Thickness = 1.15 in. | Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	725	369	369
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	164	111	111
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	168	81	81
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	329	329
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	615
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	51
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	51	51
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	57
4449 B5/B12 RRH (Shielded)	17.9	0.0	9.4	0.00	1.17	0.00	1.90	1.20	1.20	0	57	57
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	52
RRUS-E2 B29 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	52	127	127
RRUS-E2 B29 RRH (Side) (Side)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	29	127	127
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	29
4426 B66 RRH (Side)	14.9	5.8	13.2	0.60	1.37	2.57	1.13	1.20	1.20	29	66	66
4426 B66 RRH (Side) (Side) (Shielde	14.9	2.9	13.2	0.30	1.37	5.14	1.13	1.32	1.20	16	66	66
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	67
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	67	111	111
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	67
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	55
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	17	18	18

WIND LOADS WITH ICE:

QD8616-7 Antenna	94.3	24.3	11.9	15.91	7.79	3.88	7.93	1.26	1.43	130	72	72
AIR 6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	32	23	23
AIR 6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	33	18	18
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	66
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	110
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	12
4478 B14 RRH (Shielded)	20.4	2.3	10.6	0.32	1.50	8.89	1.93	1.46	1.20	3	12	12
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	13
4449 B5/B12 RRH (Shielded)	20.2	2.3	11.7	0.32	1.64	8.80	1.73	1.46	1.20	3	13	13
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	12
RRUS-E2 B29 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	12	25	25
RRUS-E2 B29 RRH (Side) (Side)	22.7	6.0	20.8	0.95	3.28	3.75	1.09	1.26	1.20	8	25	25
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	8
4426 B66 RRH (Side)	17.2	8.1	15.5	0.97	1.85	2.12	1.11	1.20	1.20	8	14	14
4426 B66 RRH (Side) (Side) (Shielde	17.2	5.2	15.5	0.62	1.85	3.31	1.11	1.24	1.20	5	14	14
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	15
RRUS-32 B2 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	15	23	23
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	15
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	12
DBC0051F3V51-2 Diplexer	10.3	8.5	8.8	0.61	0.63	1.21	1.17	1.20	1.20	5	5	5

WIND LOADS AT 30 MPH:

QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	42	21	21
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	6
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	10	5	5
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	19
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	35
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	3
4449 B5/B12 RRH (Shielded)	17.9	0.0	9.4	0.00	1.17	0.00	1.90	1.20	1.20	0	3	3
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	3
RRUS-E2 B29 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	7	7
RRUS-E2 B29 RRH (Side) (Side)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	2	7	7
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	2
4426 B66 RRH (Side)	14.9	5.8	13.2	0.60	1.37	0.00	1.13	1.20	1.20	2	4	4
4426 B66 RRH (Side) (Side) (Shielde	14.9	2.9	13.2	0.30	1.37	0.00	1.13	1.20	1.20	1	4	4
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	6	6
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	1	1	1

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 120 (deg) | Ice Thickness = 1.15 in. | Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	725	369	458
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	164	111	124
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	168	81	103
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	329	427
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	610
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	58
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	61	51	53
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	62
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	60	57	57
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
RRUS-E2 B29 RRH (Side) (Side)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	72	127	113
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	38
4426 B66 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	50	66	62
4426 B66 RRH (Side) (Side) (Shielde	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	37	66	59
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	67	111	100
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	58
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	17	18	17

WIND LOADS WITH ICE:

QD8616-7 Antenna	94.3	24.3	11.9	15.91	7.79	3.88	7.93	1.26	1.43	130	72	87
AIR 6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	32	23	25
AIR 6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	33	18	22
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	82
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	109
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	13
4478 B14 RRH (Shielded)	20.4	11.8	10.6	1.67	1.50	1.73	1.93	1.20	1.20	13	12	12
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	14
4449 B5/B12 RRH (Shielded)	20.2	11.6	11.7	1.63	1.64	1.74	1.73	1.20	1.20	13	13	13
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-E2 B29 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
RRUS-E2 B29 RRH (Side) (Side)	22.7	11.7	20.8	1.84	3.28	1.94	1.09	1.20	1.20	14	25	23
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	9
4426 B66 RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.11	1.20	1.20	11	14	13
4426 B66 RRH (Side) (Side) (Shielde	17.2	8.7	15.5	1.04	1.85	1.97	1.11	1.20	1.20	8	14	13
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-32 B2 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	15	23	21
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	13
DBC0051F3V51-2 Diplexer	10.3	8.5	8.8	0.61	0.63	1.21	1.17	1.20	1.20	5	5	5

WIND LOADS AT 30 MPH:

QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	42	21	26
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	7
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	10	5	6
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	25
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	35
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	3	3	3
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
RRUS-E2 B29 RRH (Side) (Side)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	4	7	7
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	2
4426 B66 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	3	4	4
4426 B66 RRH (Side) (Side) (Shielde	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	2	4	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	6	6
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	1	1	1

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.15	in.	Equivalent Angle =	330	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	725	369	636
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	164	111	151
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	168	81	146
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	329	624
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	599
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	74
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	41	51	44
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	74
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	40	57	44
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	64	127	80
RRUS-E2 B29 RRH (Side) (Side)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	34	127	57
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	57
4426 B66 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	33	66	41
4426 B66 RRH (Side) (Side) (Shielded	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	18	66	30
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	67	111	78
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	63
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	17	18	17

WIND LOADS WITH ICE:

QD8616-7 Antenna	94.3	24.3	11.9	15.91	7.79	3.88	7.93	1.26	1.43	130	72	115
AIR 6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	32	23	30
AIR 6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	33	18	29
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	114
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	108
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	16
4478 B14 RRH (Shielded)	20.4	7.8	10.6	1.11	1.50	2.60	1.93	1.20	1.20	9	12	9
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	16
4449 B5/B12 RRH (Shielded)	20.2	7.7	11.7	1.09	1.64	2.61	1.73	1.20	1.20	8	13	10
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-E2 B29 RRH (Side)	22.7	10.4	20.8	1.64	3.28	2.18	1.09	1.20	1.20	13	25	16
RRUS-E2 B29 RRH (Side) (Side)	22.7	5.2	20.8	0.82	3.28	4.37	1.09	1.28	1.20	7	25	11
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	13
4426 B66 RRH (Side)	17.2	7.7	15.5	0.93	1.85	2.22	1.11	1.20	1.20	7	14	9
4426 B66 RRH (Side) (Side) (Shielded	17.2	3.9	15.5	0.46	1.85	4.44	1.11	1.29	1.20	4	14	6
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
RRUS-32 B2 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	15	23	17
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	14
DBC0051F3V51-2 Diplexer	10.3	8.5	8.8	0.61	0.63	1.21	1.17	1.20	1.20	5	5	5

WIND LOADS AT 30 MPH:

QD8616-7 Antenna	92.0	22.0	9.6	14.06	6.13	4.18	9.58	1.27	1.49	42	21	37
AIR 6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	9
AIR 6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	10	5	8
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	36
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	34
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	2	3	3
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	4	7	5
RRUS-E2 B29 RRH (Side) (Side)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	2	7	3
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	3
4426 B66 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	4	2
4426 B66 RRH (Side) (Side) (Shielded	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	1	4	2
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	6	5
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
DBC0051F3V51-2 Diplexer	8.0	6.2	6.5	0.34	0.36	1.29	1.23	1.20	1.20	1	1	1

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice:	1.15	in.
Density of ice:	56	pcf

QD8616-7 Antenna

Weight of ice based on total radial SF area:

Height (in):	92.0	
Width (in):	22.0	
Depth (in):	9.6	
Total weight of ice on object:	271	lbs
Weight of object:	68.0	lbs
Combined weight of ice and object:	339	lbs

AIR 6449 Antenna

Weight of ice based on total radial SF area:

Height (in):	30.6	
Width (in):	15.9	
Depth (in):	10.6	
Total weight of ice on object:	73	lbs
Weight of object:	82.0	lbs
Combined weight of ice and object:	155	lbs

AIR 6419 Antenna

Weight of ice based on total radial SF area:

Height (in):	31.0	
Width (in):	16.1	
Depth (in):	7.3	
Total weight of ice on object:	68	lbs
Weight of object:	66.0	lbs
Combined weight of ice and object:	134	lbs

DMP65R-BU8DA Antenna

Weight of ice based on total radial SF area:

Height (in):	96.0	
Width (in):	20.7	
Depth (in):	7.7	
Total weight of ice on object:	261	lbs
Weight of object:	96.0	lbs
Combined weight of ice and object:	357	lbs

MS-MBA-3.2-H4-L4 Antenna

Weight of ice based on total radial SF area:

Height (in):	72.0	
Width (in):	24.0	
Depth (in):	25.0	
Total weight of ice on object:	302	lbs
Weight of object:	130.0	lbs
Combined weight of ice and object:	432	lbs

4426 B66 RRH

Weight of ice based on total radial SF area:

Height (in):	14.9	
Width (in):	13.2	
Depth (in):	5.8	
Total weight of ice on object:	27	lbs
Weight of object:	49.0	lbs
Combined weight of ice and object:	76	lbs

RRUS-32 B30 RRH

Weight of ice based on total radial SF area:

Height (in):	27.2	
Width (in):	12.1	
Depth (in):	7.0	
Total weight of ice on object:	48	lbs
Weight of object:	60.0	lbs
Combined weight of ice and object:	108	lbs

RRUS-E2 B29 RRH

Weight of ice based on total radial SF area:

Height (in):	20.4	
Width (in):	18.5	
Depth (in):	7.5	
Total weight of ice on object:	50	lbs
Weight of object:	53.0	lbs
Combined weight of ice and object:	103	lbs

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL Checked By: MSC

HUDSON Design Group LLC

4478 B14 RRH

Weight of ice based on total radial SF area:

Height (in):	18.1	
Width (in):	13.4	
Depth (in):	8.3	
Total weight of ice on object:		36 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		96 lbs

RRUS-32 B2 RRH

Weight of ice based on total radial SF area:

Height (in):	27.2	
Width (in):	12.1	
Depth (in):	7.0	
Total weight of ice on object:		48 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		108 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:

Height (in):	17.9	
Width (in):	13.2	
Depth (in):	9.4	
Total weight of ice on object:		36 lbs
Weight of object:	73.0 lbs	
Combined weight of ice and object:		109 lbs

8843 B2/B66A RRH

Weight of ice based on total radial SF area:

Height (in):	14.9	
Width (in):	13.2	
Depth (in):	10.9	
Total weight of ice on object:		32 lbs
Weight of object:	72.0 lbs	
Combined weight of ice and object:		104 lbs

DBC0051F3V51-2 Diplexer

Weight of ice based on total radial SF area:

Height (in):	8.0	
Width (in):	6.2	
Depth (in):	6.5	
Total weight of ice on object:		9 lbs
Weight of object:	26.0 lbs	
Combined weight of ice and object:		35 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:

Depth (in):	24.0	
Diameter(in):	9.7	
Total weight of ice on object:		30 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		63 lbs

2" pipe

Per foot weight of ice:

diameter (in):	2.38	
Per foot weight of ice on object:		5 plf

3-1/2" Pipe

Per foot weight of ice:

diameter (in):	4	
Per foot weight of ice on object:		7 plf

C 3-3/8x2-1/8

Weight of ice based on total radial SF area:

Height (in):	3.38	
Width (in):	2.13	
Per foot weight of ice on object:		7 plf

L 2x2 Angles

Weight of ice based on total radial SF area:

Height (in):	2	
Width (in):	2	
Per foot weight of ice on object:		6 plf

L 3x3 Angles

Weight of ice based on total radial SF area:

Height (in):	3	
Width (in):	3	
Per foot weight of ice on object:		8 plf

PL 6x3/8

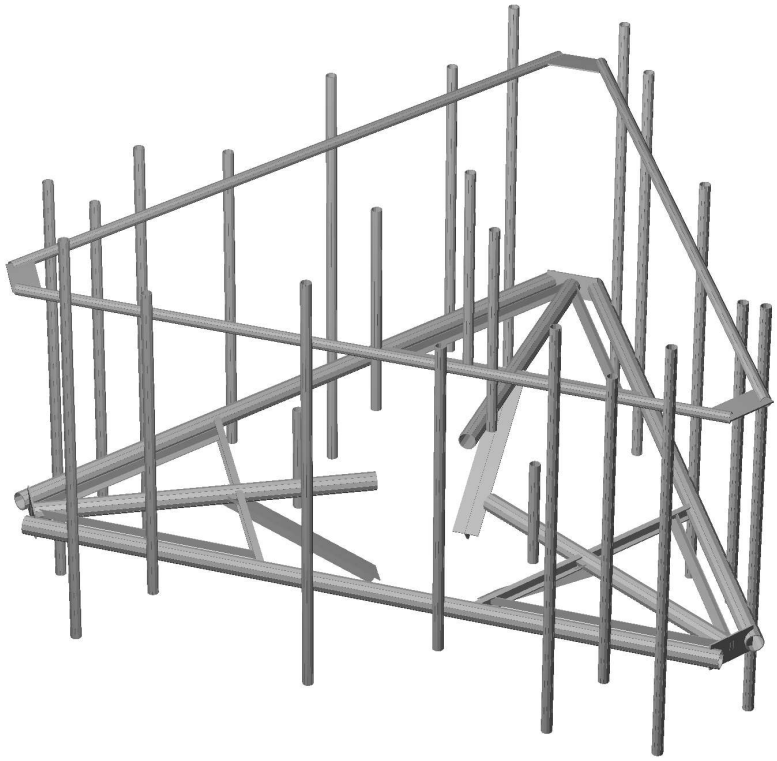
Weight of ice based on total radial SF area:

Height (in):	6	
Width (in):	0.38	
Per foot weight of ice on object:		10 plf

HUDSON
Design Group LLC

Mount Calculations
(Existing Conditions)

Current Date: 3/14/2022 4:47 PM
Units system: English



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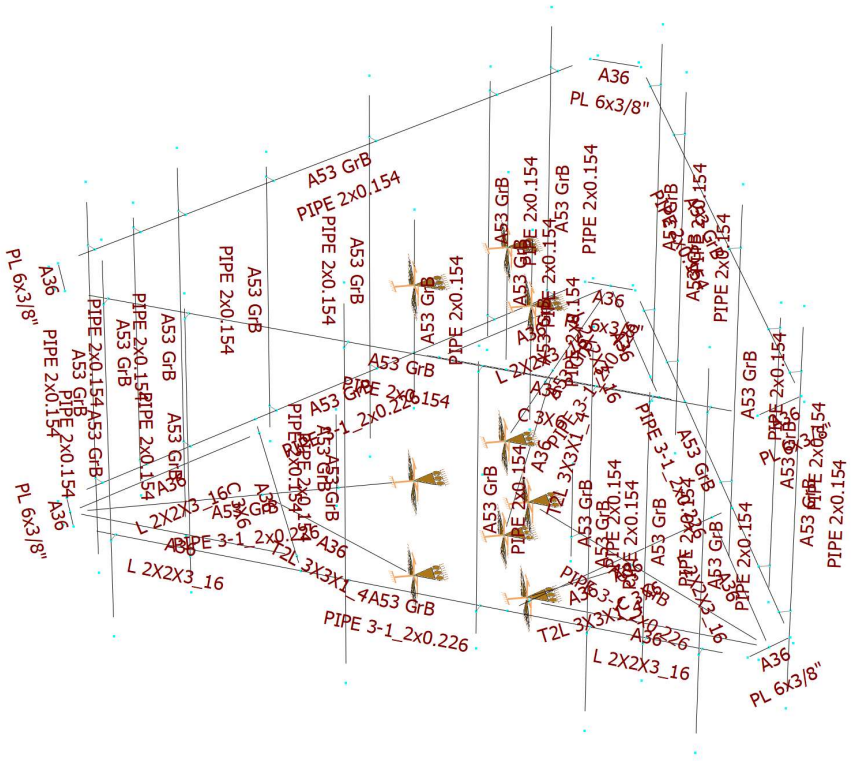
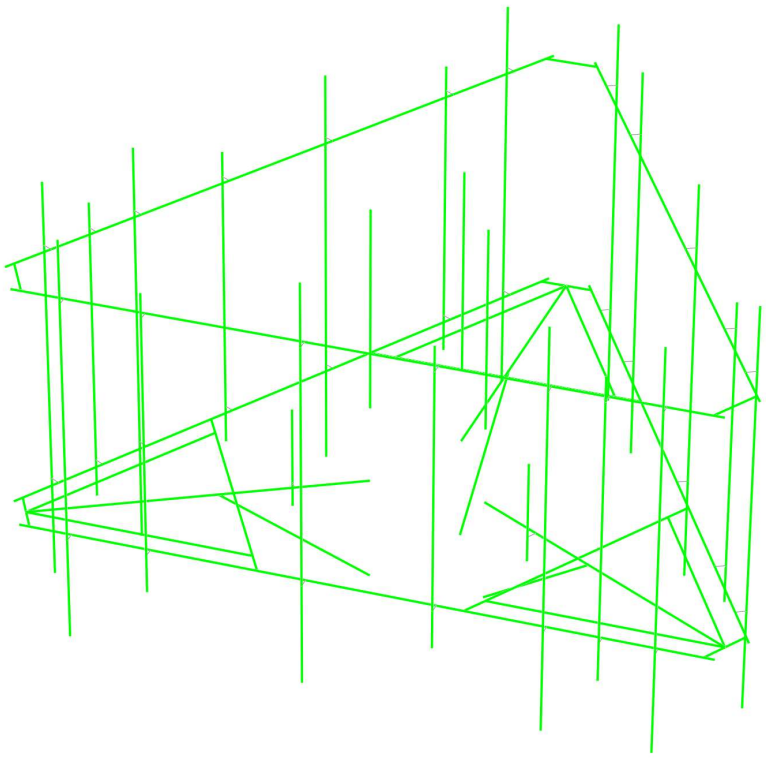
Units system: English

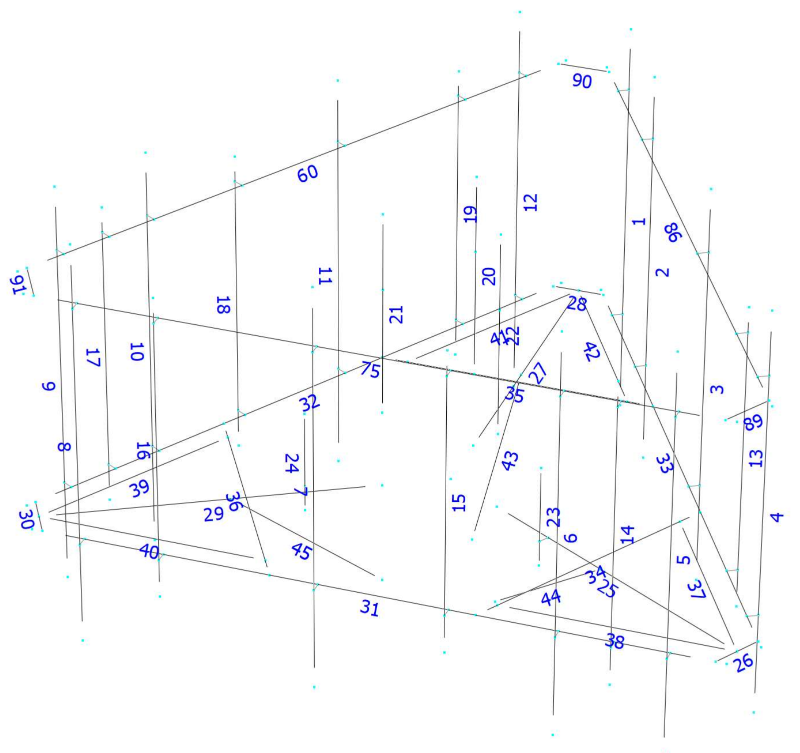


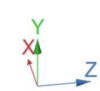
Design status
- Not designed
- Error on design
- Design O.K.
- With warnings



RAM® Elements
CONNECT Edition

Current Date: 3/14/2022 4:47 PM
Units system: English





RAM® Elements
CONNECT Edition

Current Date: 3/14/2022 4:47 PM
Units system: English

Load data

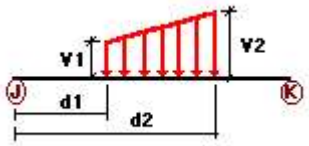
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	500 lb Live Load Antenna 1	No	LL
LLa2	500 lb Live Load Antenna 2	No	LL
LLa3	500 lb Live Load Antenna 3	No	LL
LLa4	500 lb Live Load Antenna 4	No	LL

Distributed force on members



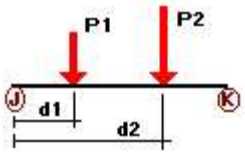
Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	34	y	-0.01	-0.01	10.00	Yes	90.00	Yes
	35	y	-0.01	-0.01	10.00	Yes	90.00	Yes
	36	y	-0.01	-0.01	10.00	Yes	90.00	Yes
	37	y	-0.01	-0.01	0.00	No	100.00	Yes
	38	y	-0.01	-0.01	0.00	No	100.00	Yes
	39	y	-0.01	-0.01	0.00	No	100.00	Yes
	40	y	-0.01	-0.01	0.00	No	100.00	Yes
	41	y	-0.01	-0.01	0.00	No	100.00	Yes
	42	y	-0.01	-0.01	0.00	No	100.00	Yes
W0	5	z	-0.01	-0.01	0.00	No	100.00	Yes
	6	z	-0.01	-0.01	0.00	No	100.00	Yes
	7	z	-0.01	-0.01	0.00	No	100.00	Yes
	8	z	-0.01	-0.01	0.00	No	100.00	Yes
	9	z	-0.01	-0.01	0.00	No	100.00	Yes
	10	z	-0.01	-0.01	0.00	No	100.00	Yes
	11	z	-0.01	-0.01	0.00	No	100.00	Yes

	12	z	-0.01	-0.01	0.00	No	100.00	Yes
	13	z	-0.01	-0.01	0.00	No	100.00	Yes
	14	z	-0.01	-0.01	0.00	No	100.00	Yes
	15	z	-0.01	-0.01	0.00	No	100.00	Yes
	16	z	-0.01	-0.01	0.00	No	100.00	Yes
	17	z	-0.01	-0.01	0.00	No	100.00	Yes
	18	z	-0.01	-0.01	0.00	No	100.00	Yes
	19	z	-0.01	-0.01	0.00	No	100.00	Yes
	20	z	-0.01	-0.01	0.00	No	100.00	Yes
	21	z	-0.01	-0.01	0.00	No	100.00	Yes
	22	z	-0.01	-0.01	0.00	No	100.00	Yes
	23	z	-0.01	-0.01	0.00	No	100.00	Yes
	24	z	-0.01	-0.01	0.00	No	100.00	Yes
	75	z	-0.01	-0.01	0.00	No	100.00	Yes
	86	z	-0.01	-0.01	0.00	No	100.00	Yes
	25	z	-0.016	-0.016	0.00	No	100.00	Yes
	27	z	-0.016	-0.016	0.00	No	100.00	Yes
	31	z	-0.016	-0.016	0.00	No	100.00	Yes
	32	z	-0.016	-0.016	0.00	No	100.00	Yes
	33	z	-0.016	-0.016	0.00	No	100.00	Yes
	34	z	-0.023	-0.023	0.00	No	100.00	Yes
	35	z	-0.023	-0.023	0.00	No	100.00	Yes
	36	z	-0.023	-0.023	0.00	No	100.00	Yes
	37	z	-0.013	-0.013	0.00	No	100.00	Yes
	38	z	-0.013	-0.013	0.00	No	100.00	Yes
	39	z	-0.013	-0.013	0.00	No	100.00	Yes
	40	z	-0.013	-0.013	0.00	No	100.00	Yes
	41	z	-0.013	-0.013	0.00	No	100.00	Yes
	42	z	-0.013	-0.013	0.00	No	100.00	Yes
	43	z	-0.02	-0.02	0.00	No	100.00	Yes
	44	z	-0.02	-0.02	0.00	No	100.00	Yes
	45	z	-0.02	-0.02	0.00	No	100.00	Yes
	28	z	-0.003	-0.003	0.00	No	100.00	Yes
	26	z	-0.003	-0.003	0.00	No	100.00	Yes
	30	z	-0.003	-0.003	0.00	No	100.00	Yes
	89	z	-0.003	-0.003	0.00	No	100.00	Yes
	90	z	-0.003	-0.003	0.00	No	100.00	Yes
	91	z	-0.003	-0.003	0.00	No	100.00	Yes
W30	1	x	-0.01	-0.01	0.00	No	100.00	Yes
	2	x	-0.01	-0.01	0.00	No	100.00	Yes
	3	x	-0.01	-0.01	0.00	No	100.00	Yes
	4	x	-0.01	-0.01	0.00	No	100.00	Yes
	5	x	-0.01	-0.01	0.00	No	100.00	Yes
	6	x	-0.01	-0.01	0.00	No	100.00	Yes
	7	x	-0.01	-0.01	0.00	No	100.00	Yes
	8	x	-0.01	-0.01	0.00	No	100.00	Yes
	13	x	-0.01	-0.01	0.00	No	100.00	Yes
	14	x	-0.01	-0.01	0.00	No	100.00	Yes
	15	x	-0.01	-0.01	0.00	No	100.00	Yes
	16	x	-0.01	-0.01	0.00	No	100.00	Yes
	17	x	-0.01	-0.01	0.00	No	100.00	Yes
	18	x	-0.01	-0.01	0.00	No	100.00	Yes
	19	x	-0.01	-0.01	0.00	No	100.00	Yes
	20	x	-0.01	-0.01	0.00	No	100.00	Yes
	21	x	-0.01	-0.01	0.00	No	100.00	Yes
	22	x	-0.01	-0.01	0.00	No	100.00	Yes
	23	x	-0.01	-0.01	0.00	No	100.00	Yes
	24	x	-0.01	-0.01	0.00	No	100.00	Yes
	75	x	-0.01	-0.01	0.00	No	100.00	Yes
	25	x	-0.016	-0.016	0.00	No	100.00	Yes

	27	x	-0.016	-0.016	0.00	No	100.00	Yes
	29	x	-0.016	-0.016	0.00	No	100.00	Yes
	31	x	-0.016	-0.016	0.00	No	100.00	Yes
	32	x	-0.016	-0.016	0.00	No	100.00	Yes
	33	x	-0.016	-0.016	0.00	No	100.00	Yes
	34	x	-0.023	-0.023	0.00	No	100.00	Yes
	35	x	-0.023	-0.023	0.00	No	100.00	Yes
	38	x	-0.013	-0.013	0.00	No	100.00	Yes
	39	x	-0.013	-0.013	0.00	No	100.00	Yes
	40	x	-0.013	-0.013	0.00	No	100.00	Yes
	41	x	-0.013	-0.013	0.00	No	100.00	Yes
	43	x	-0.02	-0.02	0.00	No	100.00	Yes
	44	x	-0.02	-0.02	0.00	No	100.00	Yes
	45	x	-0.02	-0.02	0.00	No	100.00	Yes
	28	x	-0.003	-0.003	0.00	No	100.00	Yes
	26	x	-0.003	-0.003	0.00	No	100.00	Yes
	89	x	-0.003	-0.003	0.00	No	100.00	Yes
	90	x	-0.003	-0.003	0.00	No	100.00	Yes
Di	1	y	-0.005	-0.005	0.00	No	100.00	Yes
	2	y	-0.005	-0.005	0.00	No	100.00	Yes
	3	y	-0.005	-0.005	0.00	No	100.00	Yes
	4	y	-0.005	-0.005	0.00	No	100.00	Yes
	5	y	-0.005	-0.005	0.00	No	100.00	Yes
	6	y	-0.005	-0.005	0.00	No	100.00	Yes
	7	y	-0.005	-0.005	0.00	No	100.00	Yes
	8	y	-0.005	-0.005	0.00	No	100.00	Yes
	9	y	-0.005	-0.005	0.00	No	100.00	Yes
	10	y	-0.005	-0.005	0.00	No	100.00	Yes
	11	y	-0.005	-0.005	0.00	No	100.00	Yes
	12	y	-0.005	-0.005	0.00	No	100.00	Yes
	13	y	-0.005	-0.005	0.00	No	100.00	Yes
	14	y	-0.005	-0.005	0.00	No	100.00	Yes
	15	y	-0.005	-0.005	0.00	No	100.00	Yes
	16	y	-0.005	-0.005	0.00	No	100.00	Yes
	17	y	-0.005	-0.005	0.00	No	100.00	Yes
	18	y	-0.005	-0.005	0.00	No	100.00	Yes
	19	y	-0.005	-0.005	0.00	No	100.00	Yes
	20	y	-0.005	-0.005	0.00	No	100.00	Yes
	21	y	-0.005	-0.005	0.00	No	100.00	Yes
	22	y	-0.005	-0.005	0.00	No	100.00	Yes
	23	y	-0.005	-0.005	0.00	No	100.00	Yes
	24	y	-0.005	-0.005	0.00	No	100.00	Yes
	60	y	-0.005	-0.005	0.00	No	100.00	Yes
	75	y	-0.005	-0.005	0.00	No	100.00	Yes
	86	y	-0.005	-0.005	0.00	No	100.00	Yes
	25	y	-0.007	-0.007	0.00	No	100.00	Yes
	27	y	-0.007	-0.007	0.00	No	100.00	Yes
	29	y	-0.007	-0.007	0.00	No	100.00	Yes
	31	y	-0.007	-0.007	0.00	No	100.00	Yes
	32	y	-0.007	-0.007	0.00	No	100.00	Yes
	33	y	-0.007	-0.007	0.00	No	100.00	Yes
	34	y	-0.007	-0.007	0.00	No	100.00	Yes
	35	y	-0.007	-0.007	0.00	No	100.00	Yes
	36	y	-0.007	-0.007	0.00	No	100.00	Yes
	37	y	-0.006	-0.006	0.00	No	100.00	Yes
	38	y	-0.006	-0.006	0.00	No	100.00	Yes
	39	y	-0.006	-0.006	0.00	No	100.00	Yes
	40	y	-0.006	-0.006	0.00	No	100.00	Yes
	41	y	-0.006	-0.006	0.00	No	100.00	Yes
	42	y	-0.006	-0.006	0.00	No	100.00	Yes

	43	y	-0.008	-0.008	0.00	No	100.00	Yes
	44	y	-0.008	-0.008	0.00	No	100.00	Yes
	45	y	-0.008	-0.008	0.00	No	100.00	Yes
	28	y	-0.01	-0.01	0.00	No	100.00	Yes
	26	y	-0.01	-0.01	0.00	No	100.00	Yes
	30	y	-0.01	-0.01	0.00	No	100.00	Yes
	89	y	-0.01	-0.01	0.00	No	100.00	Yes
	90	y	-0.01	-0.01	0.00	No	100.00	Yes
	91	y	-0.01	-0.01	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	1	y	-0.06	3.00	No
	2	y	-0.034	0.50	No
		y	-0.034	7.50	No
		y	-0.053	4.00	No
		y	-0.049	4.00	No
	3	y	-0.041	0.50	No
		y	-0.041	3.00	No
		y	-0.033	4.00	No
		y	-0.033	5.50	No
	4	y	-0.065	1.50	No
		y	-0.065	6.50	No
		y	-0.015	4.00	No
		y	-0.015	4.00	No
	6	y	-0.034	0.50	No
		y	-0.034	7.50	No
		y	-0.06	4.00	No
	7	y	-0.041	0.50	No
		y	-0.041	3.00	No
		y	-0.033	4.00	No
		y	-0.041	5.50	No
	8	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.073	4.00	No
	10	y	-0.034	0.50	No
		y	-0.034	7.50	No
		y	-0.06	4.00	No
	11	y	-0.041	0.50	No
		y	-0.041	3.00	No
		y	-0.033	4.00	No
		y	-0.041	5.50	No
	12	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.073	4.00	No
	13	y	-0.015	3.00	No
		y	-0.015	3.00	No
		y	-0.015	4.00	No

		y	-0.015	4.00	No
	14	y	-0.053	3.00	No
		y	-0.049	3.00	No
	15	y	-0.06	3.00	No
	16	y	-0.06	3.00	No
	17	y	-0.053	3.00	No
		y	-0.049	3.00	No
	18	y	-0.06	3.00	No
	19	y	-0.06	3.00	No
	20	y	-0.072	1.00	No
	21	y	-0.073	1.00	No
		y	-0.073	1.00	No
	22	y	-0.072	1.00	No
		y	-0.072	1.00	No
	23	y	-0.033	0.50	No
		y	-0.033	1.00	No
	24	y	-0.033	0.50	No
		y	-0.033	1.00	No
W0	1	z	-0.111	3.00	No
	2	z	-0.363	0.50	No
		z	-0.363	7.50	No
		z	-0.029	4.00	No
		z	-0.016	4.00	No
	3	z	-0.082	0.50	No
		z	-0.082	3.00	No
		z	-0.075	4.00	No
		z	-0.075	5.50	No
	4	z	-0.297	1.50	No
		z	-0.297	6.50	No
	6	z	-0.229	0.50	No
		z	-0.229	7.50	No
		z	-0.053	4.00	No
	7	z	-0.053	0.50	No
		z	-0.053	3.00	No
		z	-0.044	4.00	No
		z	-0.044	5.50	No
	8	z	-0.214	0.50	No
		z	-0.214	7.50	No
		z	-0.057	4.00	No
	10	z	-0.229	0.50	No
		z	-0.229	7.50	No
		z	-0.053	4.00	No
	11	z	-0.053	0.50	No
		z	-0.053	3.00	No
		z	-0.044	4.00	No
		z	-0.044	5.50	No
	12	z	-0.214	0.50	No
		z	-0.214	7.50	No
		z	-0.057	4.00	No
	13	z	-0.017	3.00	No
		z	-0.017	3.00	No
		z	-0.017	4.00	No
		z	-0.017	4.00	No
	14	z	-0.119	3.00	No
	15	z	-0.10	3.00	No
	16	z	-0.078	3.00	No
	17	z	-0.119	3.00	No
	18	z	-0.10	3.00	No
	19	z	-0.078	3.00	No
	20	z	-0.062	1.00	No

	21	z	-0.057	1.00	No
		z	-0.057	1.00	No
	22	z	-0.062	1.00	No
	23	z	-0.046	0.50	No
		z	-0.046	1.00	No
	24	z	-0.046	0.50	No
		z	-0.046	1.00	No
W30	1	x	-0.067	3.00	No
	2	x	-0.185	0.50	No
		x	-0.185	7.50	No
		x	-0.127	4.00	No
	3	x	-0.044	0.50	No
		x	-0.044	3.00	No
		x	-0.034	4.00	No
		x	-0.034	5.50	No
	4	x	-0.308	1.50	No
		x	-0.308	6.50	No
		x	-0.018	4.00	No
		x	-0.018	4.00	No
	6	x	-0.318	0.50	No
		x	-0.318	7.50	No
		x	-0.044	4.00	No
	7	x	-0.072	0.50	No
		x	-0.072	3.00	No
		x	-0.064	4.00	No
		x	-0.064	5.50	No
	8	x	-0.313	0.50	No
		x	-0.313	7.50	No
		x	-0.044	4.00	No
	10	x	-0.318	0.50	No
		x	-0.318	7.50	No
		x	-0.044	4.00	No
	11	x	-0.072	0.50	No
		x	-0.072	3.00	No
		x	-0.064	4.00	No
		x	-0.064	5.50	No
	12	x	-0.313	0.50	No
		x	-0.313	7.50	No
		x	-0.044	4.00	No
	13	x	-0.018	3.00	No
		x	-0.018	3.00	No
		x	-0.018	4.00	No
		x	-0.018	4.00	No
	14	x	-0.08	3.00	No
	15	x	-0.078	3.00	No
	16	x	-0.10	3.00	No
	17	x	-0.08	3.00	No
	18	x	-0.078	3.00	No
	19	x	-0.10	3.00	No
	20	x	-0.041	1.00	No
	21	x	-0.08	1.00	No
	22	x	-0.041	1.00	No
	23	x	-0.046	0.50	No
		x	-0.046	1.00	No
	24	x	-0.046	0.50	No
		x	-0.046	1.00	No
Di	1	y	-0.036	3.00	No
	2	y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.05	4.00	No

		y	-0.029	4.00	No
	3	y	-0.034	0.50	No
		y	-0.034	3.00	No
		y	-0.03	4.00	No
		y	-0.03	5.50	No
	4	y	-0.151	1.50	No
		y	-0.151	6.50	No
		y	-0.009	4.00	No
		y	-0.009	4.00	No
	6	y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.036	4.00	No
	7	y	-0.034	0.50	No
		y	-0.034	3.00	No
		y	-0.03	4.00	No
		y	-0.03	5.50	No
	8	y	-0.131	0.50	No
		y	-0.131	7.50	No
		y	-0.036	4.00	No
	10	y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.036	4.00	No
	11	y	-0.034	0.50	No
		y	-0.034	3.00	No
		y	-0.03	4.00	No
		y	-0.03	5.50	No
	12	y	-0.131	0.50	No
		y	-0.131	7.50	No
		y	-0.036	4.00	No
	13	y	-0.009	3.00	No
		y	-0.009	3.00	No
		y	-0.009	4.00	No
		y	-0.009	4.00	No
	14	y	-0.05	3.00	No
		y	-0.029	3.00	No
	15	y	-0.048	3.00	No
	16	y	-0.048	3.00	No
	17	y	-0.05	3.00	No
		y	-0.029	3.00	No
	18	y	-0.048	3.00	No
	19	y	-0.048	3.00	No
	20	y	-0.032	1.00	No
	21	y	-0.036	1.00	No
		y	-0.036	1.00	No
	22	y	-0.032	1.00	No
		y	-0.032	1.00	No
	23	y	-0.03	0.50	No
		y	-0.03	1.00	No
	24	y	-0.03	0.50	No
		y	-0.03	1.00	No
Wi0	1	z	-0.023	3.00	No
	2	z	-0.066	0.50	No
		z	-0.066	7.50	No
		z	-0.008	4.00	No
		z	-0.005	4.00	No
	3	z	-0.017	0.50	No
		z	-0.017	3.00	No
		z	-0.015	4.00	No
		z	-0.015	5.50	No
	4	z	-0.054	1.50	No

		z	-0.054	6.50	No
	6	z	-0.044	0.50	No
		z	-0.044	7.50	No
		z	-0.012	4.00	No
	7	z	-0.012	0.50	No
		z	-0.012	3.00	No
		z	-0.01	4.00	No
		z	-0.01	5.50	No
	8	z	-0.041	0.50	No
		z	-0.041	7.50	No
		z	-0.013	4.00	No
	10	z	-0.044	0.50	No
		z	-0.044	7.50	No
		z	-0.012	4.00	No
	11	z	-0.012	0.50	No
		z	-0.012	3.00	No
		z	-0.01	4.00	No
		z	-0.01	5.50	No
	12	z	-0.041	0.50	No
		z	-0.041	7.50	No
		z	-0.013	4.00	No
	13	z	-0.005	3.00	No
		z	-0.005	3.00	No
		z	-0.005	4.00	No
		z	-0.005	4.00	No
	14	z	-0.024	3.00	No
	15	z	-0.021	3.00	No
	16	z	-0.017	3.00	No
	17	z	-0.024	3.00	No
	18	z	-0.021	3.00	No
	19	z	-0.017	3.00	No
	20	z	-0.013	1.00	No
	21	z	-0.013	1.00	No
		z	-0.013	1.00	No
	22	z	-0.013	1.00	No
	23	z	-0.01	0.50	No
		z	-0.01	1.00	No
	24	z	-0.01	0.50	No
		z	-0.01	1.00	No
Wi30	1	x	-0.015	3.00	No
	2	x	-0.037	0.50	No
		x	-0.037	7.50	No
		x	-0.025	4.00	No
	3	x	-0.01	0.50	No
		x	-0.01	3.00	No
		x	-0.008	4.00	No
		x	-0.008	5.50	No
	4	x	-0.056	1.50	No
		x	-0.056	6.50	No
		x	-0.005	4.00	No
		x	-0.005	4.00	No
	6	x	-0.058	0.50	No
		x	-0.058	7.50	No
		x	-0.009	4.00	No
	7	x	-0.015	0.50	No
		x	-0.015	3.00	No
		x	-0.013	4.00	No
		x	-0.013	5.50	No
	8	x	-0.057	0.50	No
		x	-0.057	7.50	No

		x	-0.01	4.00	No
	10	x	-0.058	0.50	No
		x	-0.058	7.50	No
		x	-0.009	4.00	No
	11	x	-0.015	0.50	No
		x	-0.015	3.00	No
		x	-0.013	4.00	No
		x	-0.013	5.50	No
	12	x	-0.057	0.50	No
		x	-0.057	7.50	No
		x	-0.01	4.00	No
	13	x	-0.005	3.00	No
		x	-0.005	3.00	No
		x	-0.005	4.00	No
		x	-0.005	4.00	No
	14	x	-0.016	3.00	No
	15	x	-0.017	3.00	No
	16	x	-0.021	3.00	No
	17	x	-0.016	3.00	No
	18	x	-0.017	3.00	No
	19	x	-0.021	3.00	No
	20	x	-0.009	1.00	No
	21	x	-0.017	1.00	No
	22	x	-0.009	1.00	No
	23	x	-0.01	0.50	No
		x	-0.01	1.00	No
	24	x	-0.01	0.50	No
		x	-0.01	1.00	No
WL0	1	z	-0.006	1.00	No
	2	z	-0.021	0.50	No
		z	-0.021	7.50	No
		z	-0.002	4.00	No
		z	-0.001	4.00	No
	3	z	-0.005	0.50	No
		z	-0.005	3.00	No
		z	-0.005	4.00	No
		z	-0.005	5.50	No
	4	z	-0.018	1.50	No
		z	-0.018	6.50	No
	6	z	-0.014	0.50	No
		z	-0.014	7.50	No
		z	-0.003	4.00	No
	7	z	-0.004	0.50	No
		z	-0.004	3.00	No
		z	-0.003	4.00	No
		z	-0.003	5.50	No
	8	z	-0.013	0.50	No
		z	-0.013	7.50	No
		z	-0.003	4.00	No
	10	z	-0.014	0.50	No
		z	-0.014	7.50	No
		z	-0.003	4.00	No
	11	z	-0.004	0.50	No
		z	-0.004	3.00	No
		z	-0.003	4.00	No
		z	-0.003	5.50	No
	12	z	-0.013	0.50	No
		z	-0.013	7.50	No
		z	-0.003	4.00	No
	13	z	-0.001	3.00	No

		z	-0.001	3.00	No
		z	-0.001	4.00	No
		z	-0.001	4.00	No
	14	z	-0.007	3.00	No
	15	z	-0.006	3.00	No
	16	z	-0.005	3.00	No
	17	z	-0.007	3.00	No
	18	z	-0.006	3.00	No
	19	z	-0.005	3.00	No
	20	z	-0.004	1.00	No
	21	z	-0.003	1.00	No
		z	-0.003	1.00	No
	22	z	-0.004	1.00	No
	23	z	-0.003	0.50	No
		z	-0.003	1.00	No
	24	z	-0.003	0.50	No
		z	-0.003	1.00	No
WL30	1	x	-0.004	3.00	No
	2	x	-0.011	0.50	No
		x	-0.011	7.50	No
		x	-0.007	4.00	No
	3	x	-0.003	0.50	No
		x	-0.003	3.00	No
		x	-0.002	4.00	No
		x	-0.002	5.50	No
	4	x	-0.018	1.50	No
		x	-0.018	6.50	No
		x	-0.001	4.00	No
		x	-0.001	4.00	No
	6	x	-0.019	0.50	No
		x	-0.019	7.50	No
		x	-0.003	4.00	No
	7	x	-0.005	0.50	No
		x	-0.005	3.00	No
		x	-0.004	4.00	No
		x	-0.004	5.50	No
	8	x	-0.018	0.50	No
		x	-0.018	7.50	No
		x	-0.003	4.00	No
	10	x	-0.019	0.50	No
		x	-0.019	7.50	No
		x	-0.003	4.00	No
	11	x	-0.005	0.50	No
		x	-0.005	3.00	No
		x	-0.004	4.00	No
		x	-0.004	5.50	No
	12	x	-0.018	0.50	No
		x	-0.018	7.50	No
		x	-0.003	4.00	No
	13	x	-0.001	3.00	No
		x	-0.001	3.00	No
		x	-0.001	4.00	No
		x	-0.001	4.00	No
	14	x	-0.005	3.00	No
	15	x	-0.005	3.00	No
	16	x	-0.006	3.00	No
	17	x	-0.005	3.00	No
	18	x	-0.005	3.00	No
	19	x	-0.006	3.00	No
	20	x	-0.002	1.00	No

	21	x	-0.005	1.00	No
	22	x	-0.002	1.00	No
	23	x	-0.003	0.50	No
		x	-0.003	1.00	No
	24	x	-0.003	0.50	No
		x	-0.003	1.00	No
LL1	86	y	-0.25	50.00	Yes
LL2	86	y	-0.25	0.00	Yes
LLa1	1	y	-0.50	50.00	Yes
LLa2	2	y	-0.50	50.00	Yes
LLa3	3	y	-0.50	50.00	Yes
LLa4	4	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

RAM® Elements
CONNECT Edition

Current Date: 3/14/2022 4:48 PM
Units system: English

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2DL
LC2=1.2DL+W0
LC3=1.2DL+W30
LC4=1.2DL-W0
LC5=1.2DL-W30
LC6=0.9DL+W0
LC7=0.9DL+W30
LC8=0.9DL-W0
LC9=0.9DL-W30
LC10=1.2DL+Di+Wi0
LC11=1.2DL+Di+Wi30
LC12=1.2DL+Di-Wi0
LC13=1.2DL+Di-Wi30
LC14=1.4DL
LC15=1.2DL+1.6LL1
LC16=1.2DL+1.6LL2
LC17=1.2DL+WL0+1.6LLa1
LC18=1.2DL+WL30+1.6LLa1
LC19=1.2DL-WL0+1.6LLa1
LC20=1.2DL-WL30+1.6LLa1
LC21=1.2DL+WL0+1.6LLa2
LC22=1.2DL+WL30+1.6LLa2
LC23=1.2DL-WL0+1.6LLa2
LC24=1.2DL-WL30+1.6LLa2
LC25=1.2DL+WL0+1.6LLa3
LC26=1.2DL+WL30+1.6LLa3
LC27=1.2DL-WL0+1.6LLa3
LC28=1.2DL-WL30+1.6LLa3
LC29=1.2DL+WL0+1.6LLa4
LC30=1.2DL+WL30+1.6LLa4
LC31=1.2DL-WL0+1.6LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 3X6	**34**	LC5 at 0.00%	**0.72**	**OK**	
		35	LC3 at 100.00%	0.64	OK	
		36	LC3 at 0.00%	0.60	OK	
	L 2X2X3_16	**37**	LC3 at 100.00%	0.34	OK	
		38	LC3 at 0.00%	0.36	OK	
		39	LC2 at 0.00%	0.36	OK	
		40	LC2 at 100.00%	**0.38**	**OK**	
		41	LC5 at 100.00%	0.36	OK	
		42	LC5 at 0.00%	0.31	OK	
	PIPE 2x0.154	**1**	LC3 at 72.92%	0.49	OK	
		2	LC3 at 72.92%	**0.66**	**OK**	
		3	LC5 at 72.92%	0.63	OK	
		4	LC5 at 72.92%	0.48	OK	
		5	LC5 at 72.92%	0.29	OK	
		6	LC5 at 72.92%	0.49	OK	
		7	LC5 at 72.92%	0.57	OK	
		8	LC4 at 72.92%	0.41	OK	

	9	LC4 at 72.92%	0.29	OK
	10	LC3 at 72.92%	0.46	OK
	11	LC4 at 72.92%	0.54	OK
	12	LC3 at 72.92%	0.43	OK
	13	LC5 at 85.42%	0.52	OK
	14	LC5 at 85.42%	0.36	OK
	15	LC4 at 85.42%	0.52	OK
	16	LC4 at 85.42%	0.42	OK
	17	LC4 at 85.42%	0.36	OK
	18	LC3 at 85.42%	0.52	OK
	19	LC2 at 85.42%	0.44	OK
	20	LC2 at 34.38%	0.02	OK
	21	LC2 at 34.38%	0.03	OK
	22	LC2 at 34.38%	0.02	OK
	23	LC2 at 71.88%	0.06	OK
	24	LC5 at 71.88%	0.06	OK
	60	LC2 at 91.88%	0.37	OK
	75	LC5 at 92.50%	0.33	OK
	86	LC3 at 7.81%	0.36	OK
PIPE 3-1_2x0.226	**25**	LC3 at 45.31%	**0.48**	**OK**
	27	LC5 at 45.83%	0.41	OK
	29	LC2 at 45.31%	0.46	OK
	31	LC2 at 65.10%	0.19	OK
	32	LC3 at 34.90%	0.20	OK
	33	LC3 at 65.00%	0.24	OK
PL 6x3/8"	**28**	LC5 at 50.00%	0.33	OK
	26	LC3 at 46.88%	0.30	OK
	30	LC2 at 50.00%	**0.34**	**OK**
	89	LC4 at 0.00%	0.20	OK
	90	LC4 at 100.00%	0.27	OK
	91	LC5 at 100.00%	0.30	OK
T2L 3X3X1_4	**43**	LC5 at 100.00%	0.31	OK
	44	LC3 at 100.00%	**0.34**	**OK**
	45	LC2 at 100.00%	0.31	OK

RAM® Elements
CONNECT Edition

Current Date: 3/14/2022 4:48 PM
Units system: English

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
2	-1.0825	0.00	0.625	0
3	-6.4519	0.00	3.725	0
4	-6.7019	0.00	3.292	0
5	-6.2019	0.00	4.158	0
10	1.0825	0.00	0.625	0
11	6.4519	0.00	3.725	0
12	6.2019	0.00	4.158	0
13	6.7019	0.00	3.292	0
14	0.00	0.00	-1.25	0
15	0.00	0.00	-7.45	0
16	0.50	0.00	-7.45	0
17	-0.50	0.00	-7.45	0
19	-6.8009	0.00	3.4636	0
20	-0.4009	0.00	-7.6216	0
21	-1.90	0.00	4.158	0
28	-4.5509	0.00	-0.4336	0
29	0.4009	0.00	-7.6216	0
30	6.8009	0.00	3.4636	0
33	6.40	0.00	4.158	0
34	-6.40	0.00	4.158	0
35	-2.15	0.00	3.725	0
36	-4.3009	0.00	-0.0005	0

41	4.5509	0.00	-0.4336	0
42	1.90	0.00	4.158	0
43	4.3009	0.00	-0.0005	0
44	2.15	0.00	3.725	0
45	-2.6509	0.00	-3.7245	0
46	2.6509	0.00	-3.7245	0
47	-2.1509	0.00	-3.7245	0
48	2.1509	0.00	-3.7245	0
49	1.0825	-2.00	0.625	0
50	3.4641	0.00	2.00	0
53	-1.0825	-2.00	0.625	0
54	-3.4641	0.00	2.00	0
55	0.00	-2.00	-1.25	0
56	0.00	0.00	-4.00	0
57	4.1009	0.00	-1.213	0
58	4.2741	0.00	-1.313	0
59	1.9009	0.00	-5.0235	0
60	2.0741	0.00	-5.1235	0
61	6.3009	0.00	2.5975	0
62	6.4741	0.00	2.4975	0
63	0.9009	0.00	-6.7555	0
64	1.0741	0.00	-6.8555	0
65	1.4009	0.00	-5.8895	0
66	1.5741	0.00	-5.9895	0
67	2.9009	0.00	-3.2914	0
68	3.0741	0.00	-3.3914	0
69	5.5509	0.00	1.2985	0
70	5.7241	0.00	1.1985	0
71	4.1009	4.75	-1.213	0
72	4.2741	4.75	-1.313	0
73	2.9009	4.75	-3.2914	0
74	3.0741	4.75	-3.3914	0
75	1.9009	4.75	-5.0235	0
76	2.0741	4.75	-5.1235	0
77	0.9009	4.75	-6.7555	0
78	1.0741	4.75	-6.8555	0
79	1.4009	4.75	-5.8895	0
80	1.5741	4.75	-5.9895	0
81	6.3009	4.75	2.5975	0
82	6.4741	4.75	2.4975	0
83	5.5509	4.75	1.2985	0
84	5.7241	4.75	1.1985	0
85	0.4009	4.75	-7.6216	0
86	6.8009	4.75	3.4636	0
117	-3.1009	0.00	-2.945	0
118	-3.2741	0.00	-3.045	0
119	-4.3009	0.00	-0.8666	0
120	-4.4741	0.00	-0.9666	0
121	-5.3009	0.00	0.8655	0
122	-5.4741	0.00	0.7655	0
123	-6.3009	0.00	2.5975	0
124	-6.4741	0.00	2.4975	0
125	-5.8009	0.00	1.7315	0
126	-5.9741	0.00	1.6315	0
127	-0.9009	0.00	-6.7555	0
128	-1.0741	0.00	-6.8555	0
129	-1.6509	0.00	-5.4565	0
130	-1.8241	0.00	-5.5565	0
131	-3.1009	4.75	-2.945	0
132	-3.2741	4.75	-3.045	0

133	-4.3009	4.75	-0.8666	0
134	-4.4741	4.75	-0.9666	0
135	-5.3009	4.75	0.8655	0
136	-5.4741	4.75	0.7655	0
137	-6.3009	4.75	2.5975	0
138	-6.4741	4.75	2.4975	0
139	-5.8009	4.75	1.7315	0
140	-5.9741	4.75	1.6315	0
141	-0.9009	4.75	-6.7555	0
142	-1.0741	4.75	-6.8555	0
143	-1.6509	4.75	-5.4565	0
144	-1.8241	4.75	-5.5565	0
145	-6.8009	4.75	3.4636	0
146	-0.4009	4.75	-7.6216	0
147	-1.00	0.00	4.158	0
148	-1.00	0.00	4.358	0
151	3.40	0.00	4.158	0
152	3.40	0.00	4.358	0
153	5.40	0.00	4.158	0
154	5.40	0.00	4.358	0
157	-5.40	0.00	4.158	0
158	-5.40	0.00	4.358	0
159	-3.90	0.00	4.158	0
160	-3.90	0.00	4.358	0
161	-1.00	4.75	4.158	0
162	-1.00	4.75	4.358	0
165	3.40	4.75	4.158	0
166	3.40	4.75	4.358	0
167	5.40	4.75	4.158	0
168	5.40	4.75	4.358	0
171	-5.40	4.75	4.158	0
172	-5.40	4.75	4.358	0
173	-3.90	4.75	4.158	0
174	-3.90	4.75	4.358	0
175	6.40	4.75	4.158	0
176	-6.40	4.75	4.158	0
177	-5.40	-2.00	4.358	0
178	-1.00	-2.00	4.358	0
179	3.40	-2.00	4.358	0
180	5.40	-2.00	4.358	0
181	-1.0741	-2.00	-6.8555	0
182	-3.2741	-2.00	-3.045	0
183	-5.4741	-2.00	0.7655	0
184	-6.4741	-2.00	2.4975	0
185	1.0741	-2.00	-6.8555	0
186	2.0741	-2.00	-5.1235	0
187	4.2741	-2.00	-1.313	0
188	6.4741	-2.00	2.4975	0
189	1.0741	6.00	-6.8555	0
190	2.0741	6.00	-5.1235	0
191	4.2741	6.00	-1.313	0
192	6.4741	6.00	2.4975	0
193	-1.0741	6.00	-6.8555	0
194	-3.2741	6.00	-3.045	0
195	-5.4741	6.00	0.7655	0
196	-6.4741	6.00	2.4975	0
197	-5.40	6.00	4.358	0
198	-1.00	6.00	4.358	0
199	3.40	6.00	4.358	0
200	5.40	6.00	4.358	0

203	-3.90	-0.75	4.358	0
204	-5.9741	-0.75	1.6315	0
205	-4.4741	-0.75	-0.9666	0
206	-1.8241	-0.75	-5.5565	0
207	1.5741	-0.75	-5.9895	0
208	3.0741	-0.75	-3.3914	0
209	5.7241	-0.75	1.1985	0
210	1.5741	5.25	-5.9895	0
211	-1.8241	5.25	-5.5565	0
212	3.0741	5.25	-3.3914	0
213	5.7241	5.25	1.1985	0
216	-3.90	5.25	4.358	0
217	-4.4741	5.25	-0.9666	0
218	-5.9741	5.25	1.6315	0
219	-2.2733	0.00	1.3125	0
220	-2.3733	0.00	1.1393	0
221	-2.3733	-0.50	1.1393	0
222	-2.3733	1.50	1.1393	0
227	0.20	-0.50	-2.625	0
228	0.20	1.50	-2.625	0
229	0.00	0.00	-2.625	0
230	0.20	0.00	-2.625	0
231	-6.7019	4.75	3.292	0
232	-6.2019	4.75	4.158	0
233	6.2019	4.75	4.158	0
234	6.7019	4.75	3.292	0
235	0.50	4.75	-7.45	0
236	-0.50	4.75	-7.45	0
237	0.00	4.00	-1.25	0
238	1.0825	4.00	0.625	0
239	-1.0825	4.00	0.625	0
240	0.00	5.50	-1.25	0
241	1.0825	5.50	0.625	0
242	-1.0825	5.50	0.625	0
243	0.00	1.50	-1.25	0
244	1.0825	1.50	0.625	0
245	-1.0825	1.50	0.625	0

Restraints

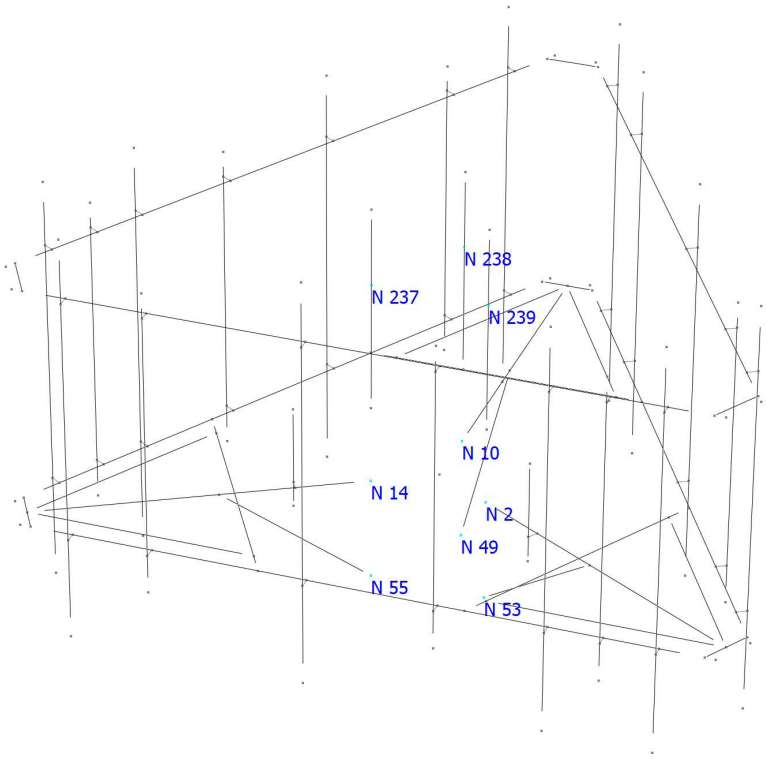
Node	TX	TY	TZ	RX	RY	RZ
2	1	1	1	1	1	1
10	1	1	1	1	1	1
14	1	1	1	1	1	1
49	1	1	1	1	1	1
53	1	1	1	1	1	1
55	1	1	1	1	1	1
237	1	1	1	1	1	1
238	1	1	1	1	1	1
239	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	200	180		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
2	199	179		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
3	198	178		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
4	197	177		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	196	184		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	195	183		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	194	182		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	193	181		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	189	185		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
10	190	186		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
11	191	187		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
12	192	188		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
13	216	203		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	218	204		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	217	205		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
16	211	206		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
17	210	207		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
18	212	208		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
19	213	209		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
20	241	244		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	240	243		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
22	242	245		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	222	221		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
24	228	227		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
60	85	86		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
75	145	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
86	175	176		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	2	3		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
27	10	11		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
29	14	15		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
31	19	20		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
32	29	30		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
33	33	34		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
34	28	21		C 3X6	A36	0.00	0.00	0.00
35	42	41		C 3X6	A36	0.00	0.00	0.00
36	46	45		C 3X6	A36	0.00	0.00	0.00
37	35	3		L 2X2X3_16	A36	0.00	0.00	0.00
38	3	36		L 2X2X3_16	A36	0.00	0.00	0.00
39	15	48		L 2X2X3_16	A36	0.00	0.00	0.00
40	47	15		L 2X2X3_16	A36	0.00	0.00	0.00
41	43	11		L 2X2X3_16	A36	0.00	0.00	0.00
42	11	44		L 2X2X3_16	A36	0.00	0.00	0.00
43	49	50		T2L 3X3X1_4	A36	0.00	0.00	0.00
44	53	54		T2L 3X3X1_4	A36	0.00	0.00	0.00
45	55	56		T2L 3X3X1_4	A36	0.00	0.00	0.00
28	12	13		PL 6x3/8"	A36	0.00	0.00	0.00
26	4	5		PL 6x3/8"	A36	0.00	0.00	0.00
30	16	17		PL 6x3/8"	A36	0.00	0.00	0.00
89	231	232		PL 6x3/8"	A36	0.00	0.00	0.00
90	233	234		PL 6x3/8"	A36	0.00	0.00	0.00
91	235	236		PL 6x3/8"	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	315.00	0	0.00	0.00	0.00
2	315.00	0	0.00	0.00	0.00
3	315.00	0	0.00	0.00	0.00
4	315.00	0	0.00	0.00	0.00
5	315.00	0	0.00	0.00	0.00
6	315.00	0	0.00	0.00	0.00
7	315.00	0	0.00	0.00	0.00
8	315.00	0	0.00	0.00	0.00
9	315.00	0	0.00	0.00	0.00
10	315.00	0	0.00	0.00	0.00
11	315.00	0	0.00	0.00	0.00
12	315.00	0	0.00	0.00	0.00
13	315.00	0	0.00	0.00	0.00
14	315.00	0	0.00	0.00	0.00
15	315.00	0	0.00	0.00	0.00
16	315.00	0	0.00	0.00	0.00
17	315.00	0	0.00	0.00	0.00
18	315.00	0	0.00	0.00	0.00
19	315.00	0	0.00	0.00	0.00
23	315.00	0	0.00	0.00	0.00
24	315.00	0	0.00	0.00	0.00
89	90.00	0	0.00	0.00	0.00
90	90.00	0	0.00	0.00	0.00
91	90.00	0	0.00	0.00	0.00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N 237
N 239
N 10
N 14
N 2
N 49
N 55
N 53

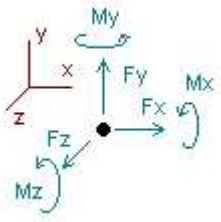

Y
X
Z

RAM® Elements
CONNECT Edition

Current Date: 3/14/2022 4:49 PM
Units system: English

Analysis result

Reactions



Direction of positive forces and moments

	Forces [Kip]			Moments [Kip*ft]		
Node	**FX**	**FY**	**FZ**	**MX**	**MY**	**MZ**
Condition **LC1=1.2DL**						
2	2.01164	-0.15694	-1.13495	0.07857	0.02539	0.03109
10	-1.92552	-0.21680	-1.08971	0.09060	-0.01966	-0.07904
14	-0.00135	-0.16301	2.46770	-0.06621	0.00014	0.01698
49	2.12875	1.65538	1.20085	0.03417	0.02045	-0.08851
53	-2.21875	1.73642	1.25182	0.03123	-0.02000	0.08275
55	0.00522	1.83904	-2.69571	-0.09030	-0.00527	-0.00380
237	0.00000	0.19143	0.00000	0.00000	0.00000	0.00000
238	0.00000	0.10263	0.00000	0.00000	0.00000	0.00000
239	0.00000	0.18903	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	5.17720	0.00000	0.07806	0.00105	-0.04052
Condition **LC2=1.2DL+W0**						
2	-0.59490	0.22940	1.70920	0.43290	1.74235	-0.45336
10	0.61244	0.01852	1.51642	0.38826	-1.48603	0.23935
14	-0.06098	-0.85990	9.73195	-0.48685	0.10995	-0.05983
49	0.69837	0.61350	0.48351	0.24101	-0.37341	0.12980
53	-0.58034	0.57240	0.38874	0.23408	0.40994	-0.19570
55	-0.07460	4.12018	-6.29642	-0.34443	0.10088	0.07296
237	0.00000	0.19143	0.15400	0.03701	0.00000	0.00000
238	0.00000	0.10263	0.10200	0.01101	0.00000	0.00000
239	0.00000	0.18903	0.10200	0.01101	0.00000	0.00000
SUM	0.00000	5.17720	7.89140	0.52400	0.50368	-0.26679
Condition **LC3=1.2DL+W30**						
2	8.03022	-0.85862	-3.85714	0.64502	0.80700	0.21648
10	3.54387	0.33088	1.60524	-0.35019	0.44791	0.05720
14	1.57259	-0.20308	2.41443	-0.10013	-2.42002	-0.64877
49	-0.50124	-0.23592	-0.20624	-0.05263	-0.00940	0.10147
53	-5.07892	3.77604	2.82861	0.19788	0.03665	0.28453
55	0.16587	1.88478	-2.78490	-0.10754	-0.69917	-0.51076
237	0.12000	0.19143	0.00000	0.00000	0.00000	-0.02001
238	0.08100	0.10263	0.00000	0.00000	0.00000	-0.00051
239	0.08100	0.18903	0.00000	0.00000	0.00000	-0.00051
SUM	8.01440	5.17720	0.00000	0.23241	-1.83703	-0.52088

Condition **LC4=1.2DL-W0**

2	4.60617	-0.53953	-3.97908	-0.27698	-1.68875	0.51239
10	-4.45051	-0.44881	-3.69365	-0.20817	1.44351	-0.39498
14	0.05691	0.54295	-4.81313	0.36302	-0.10948	0.09326
49	3.55012	2.69268	1.91800	-0.17059	0.41036	-0.30470
53	-3.84818	2.89642	2.11554	-0.16946	-0.44587	0.35900
55	0.08549	-0.44961	0.91891	0.16483	-0.11137	-0.08051
237	0.00000	0.19143	-0.15400	-0.03701	0.00000	0.00000
238	0.00000	0.10263	-0.10200	-0.01101	0.00000	0.00000
239	0.00000	0.18903	-0.10200	-0.01101	0.00000	0.00000
SUM	0.00000	5.17720	-7.89140	-0.35638	-0.50160	0.18445

Condition **LC5=1.2DL-W30**

2	-4.02339	0.55383	1.59946	-0.49396	-0.76100	-0.16065
10	-7.38433	-0.75736	-3.77670	0.52810	-0.48529	-0.20959
14	-1.57645	-0.12014	2.51025	-0.03014	2.42099	0.68467
49	4.75076	3.54144	2.60128	0.11913	0.05236	-0.27831
53	0.65529	-0.31266	-0.33561	-0.13787	-0.07935	-0.11935
55	-0.15429	1.78898	-2.59868	-0.07191	0.68737	0.50227
237	-0.12000	0.19143	0.00000	0.00000	0.00000	0.02001
238	-0.08100	0.10263	0.00000	0.00000	0.00000	0.00051
239	-0.08100	0.18903	0.00000	0.00000	0.00000	0.00051
SUM	-8.01440	5.17720	0.00000	-0.08666	1.83508	0.44007

Condition **LC6=0.9DL+W0**

2	-1.09660	0.26842	1.99139	0.41299	1.73581	-0.46087
10	1.09274	0.07272	1.78758	0.36539	-1.48102	0.25905
14	-0.06062	-0.81887	9.11127	-0.47022	0.10993	-0.06395
49	0.16693	0.20055	0.18471	0.23285	-0.37905	0.15204
53	-0.02655	0.13931	0.07753	0.22678	0.41559	-0.21644
55	-0.07590	3.65845	-5.61907	-0.32123	0.10214	0.07387
237	0.00000	0.14357	0.15400	0.03701	0.00000	0.00000
238	0.00000	0.07697	0.10200	0.01100	0.00000	0.00000
239	0.00000	0.14177	0.10200	0.01101	0.00000	0.00000
SUM	0.00000	3.88290	7.89140	0.50556	0.50339	-0.25630

Condition **LC7=0.9DL+W30**

2	7.52384	-0.81894	-3.57181	0.62496	0.80053	0.20871
10	4.02213	0.38476	1.87609	-0.37252	0.45277	0.07700
14	1.57167	-0.16223	1.79719	-0.08350	-2.41962	-0.65247
49	-1.03050	-0.64781	-0.50521	-0.06119	-0.01418	0.12315
53	-4.52091	3.33991	2.51437	0.19002	0.04207	0.26315
55	0.16616	1.42488	-2.11063	-0.08483	-0.69877	-0.51048
237	0.12000	0.14357	0.00000	0.00000	0.00000	-0.02001
238	0.08100	0.07697	0.00000	0.00000	0.00000	-0.00050
239	0.08100	0.14177	0.00000	0.00000	0.00000	-0.00051
SUM	8.01440	3.88290	0.00000	0.21294	-1.83720	-0.51196

Condition **LC8=0.9DL-W0**

2	4.10194	-0.50007	-3.69374	-0.29637	-1.69490	0.50436
10	-3.96799	-0.39461	-3.41992	-0.23060	1.44833	-0.37518
14	0.05721	0.58345	-5.42663	0.37951	-0.10952	0.08890
49	3.01710	2.27798	1.61634	-0.17956	0.40575	-0.28255
53	-3.29244	2.46131	1.80080	-0.17784	-0.44148	0.33821
55	0.08418	-0.90749	1.58974	0.18697	-0.11000	-0.07952
237	0.00000	0.14357	-0.15400	-0.03701	0.00000	0.00000

238	0.00000	0.07697	-0.10200	-0.01100	0.00000	0.00000
239	0.00000	0.14177	-0.10200	-0.01101	0.00000	0.00000
SUM	0.00000	3.88290	-7.89140	-0.37692	-0.50183	0.19422

Condition **LC9=0.9DL-W30**

2	-4.52292	0.59263	1.88163	-0.51321	-0.76724	-0.16841
10	-6.89978	-0.70284	-3.50268	0.50511	-0.48031	-0.18989
14	-1.57486	-0.07945	1.89329	-0.01363	2.42053	0.67988
49	4.21557	3.12569	2.29980	0.11056	0.04688	-0.25559
53	1.20678	-0.74470	-0.64731	-0.14569	-0.07473	-0.13949
55	-0.15719	1.32925	-1.92473	-0.04929	0.68961	0.50389
237	-0.12000	0.14357	0.00000	0.00000	0.00000	0.02001
238	-0.08100	0.07697	0.00000	0.00000	0.00000	0.00050
239	-0.08100	0.14177	0.00000	0.00000	0.00000	0.00051
SUM	-8.01440	3.88290	0.00000	-0.10615	1.83474	0.45140

Condition **LC10=1.2DL+Di+Wi0**

2	3.34522	-0.26910	-1.70809	0.20960	0.26431	0.01286
10	-3.19992	-0.38879	-1.65652	0.19616	-0.24006	-0.12932
14	-0.00771	-0.43659	5.50247	-0.21311	0.00417	0.02576
49	3.72230	2.89565	2.12635	0.10698	-0.03296	-0.13634
53	-3.86472	3.02067	2.17692	0.08328	0.00868	0.13014
55	0.00483	3.66447	-5.43913	-0.21763	-0.00520	-0.00373
237	0.00000	0.26343	0.02600	0.01300	0.00000	0.00000
238	0.00000	0.13463	0.01300	0.00650	0.00000	0.00000
239	0.00000	0.25303	0.01300	0.00650	0.00000	0.00000
SUM	0.00000	9.13740	1.05400	0.19128	-0.00108	-0.10063

Condition **LC11=1.2DL+Di+Wi30**

2	4.61227	-0.44107	-2.51132	0.24327	0.15778	0.11956
10	-2.74654	-0.33772	-1.63954	0.07818	0.06521	-0.15724
14	0.21078	-0.33327	4.44728	-0.15151	-0.32211	-0.06665
49	3.52187	2.75803	2.02254	0.06193	0.02146	-0.13861
53	-4.56836	3.52254	2.57245	0.09316	-0.02707	0.19935
55	0.01998	3.31780	-4.89141	-0.17938	-0.09246	-0.06754
237	0.01700	0.26343	0.00000	0.00000	0.00000	-0.00850
238	0.00900	0.13463	0.00000	0.00000	0.00000	-0.00450
239	0.00900	0.25303	0.00000	0.00000	0.00000	-0.00450
SUM	1.08500	9.13740	0.00000	0.14565	-0.19718	-0.12864

Condition **LC12=1.2DL+Di-Wi0**

2	4.10396	-0.39091	-2.50339	0.10217	-0.17799	0.16401
10	-3.92222	-0.46081	-2.41229	0.10290	0.20438	-0.22875
14	-0.00300	-0.21700	3.39015	-0.07919	0.00311	0.04886
49	4.16128	3.21814	2.36403	0.04997	0.07937	-0.20212
53	-4.36191	3.38129	2.47335	0.05188	-0.07665	0.20133
55	0.02188	2.95559	-4.31385	-0.13569	-0.02006	-0.01445
237	0.00000	0.26343	-0.02600	-0.01300	0.00000	0.00000
238	0.00000	0.13463	-0.01300	-0.00650	0.00000	0.00000
239	0.00000	0.25303	-0.01300	-0.00650	0.00000	0.00000
SUM	0.00000	9.13740	-1.05400	0.06604	0.01215	-0.03111

Condition **LC13=1.2DL+Di-Wi30**

2	2.83682	-0.21882	-1.69991	0.06840	-0.07161	0.05724
10	-4.37563	-0.51179	-2.42912	0.22082	-0.10079	-0.20075
14	-0.22150	-0.32045	4.44543	-0.14093	0.32938	0.14132
49	4.36172	3.35573	2.46768	0.09493	0.02509	-0.19990
53	-3.65817	2.87931	2.07759	0.04190	-0.04104	0.13216
55	0.00676	3.30232	-4.86168	-0.17394	0.06715	0.04933
237	-0.01700	0.26343	0.00000	0.00000	0.00000	0.00850
238	-0.00900	0.13463	0.00000	0.00000	0.00000	0.00450
239	-0.00900	0.25303	0.00000	0.00000	0.00000	0.00450
SUM	-1.08500	9.13740	0.00000	0.11120	0.20818	-0.00310

Condition **LC14=1.4DL**

2	2.34697	-0.18310	-1.32413	0.09168	0.02963	0.03627
10	-2.24647	-0.25294	-1.27135	0.10570	-0.02294	-0.09220
14	-0.00157	-0.19019	2.87917	-0.07725	0.00015	0.01981
49	2.48358	1.93126	1.40100	0.03989	0.02388	-0.10334
53	-2.58862	2.02581	1.46048	0.03647	-0.02335	0.09662
55	0.00609	2.14561	-3.14518	-0.10545	-0.00615	-0.00443
237	0.00000	0.22334	0.00000	0.00000	0.00000	0.00000
238	0.00000	0.11974	0.00000	0.00000	0.00000	0.00000
239	0.00000	0.22054	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	6.04006	0.00000	0.09104	0.00122	-0.04727

Condition **LC15=1.2DL+1.6LL1**

2	2.25768	-0.15350	-1.35108	-0.03432	-0.04548	0.07933
10	-2.17801	-0.22270	-1.30072	-0.00474	0.04234	-0.12653
14	-0.00319	-0.15523	2.32353	-0.06388	0.00192	0.02057
49	2.38964	1.89209	1.42301	0.06668	-0.02883	-0.07423
53	-2.47350	1.97601	1.48121	0.06640	0.03658	0.06261
55	0.00738	1.75743	-2.57594	-0.08680	-0.00713	-0.00513
237	0.00000	0.19143	0.00000	0.00000	0.00000	0.00000
238	0.00000	0.10263	0.00000	0.00000	0.00000	0.00000
239	0.00000	0.18903	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	5.57720	0.00000	-0.05666	-0.00061	-0.04337

Condition **LC16=1.2DL+1.6LL2**

2	1.89959	-0.14449	-1.08957	0.05545	0.00411	0.03593
10	-2.87034	-0.41533	-1.65014	0.13924	-0.00522	-0.20708
14	-0.01311	-0.14355	2.29407	-0.05448	0.01717	0.03053
49	3.10389	2.37411	1.78228	0.08452	0.00770	-0.15745
53	-2.13251	1.67655	1.21710	0.03371	-0.01173	0.07525
55	0.01249	1.74681	-2.55374	-0.08204	-0.00826	-0.00590
237	0.00000	0.19143	0.00000	0.00000	0.00000	0.00000
238	0.00000	0.10263	0.00000	0.00000	0.00000	0.00000
239	0.00000	0.18903	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	5.57720	0.00000	0.17641	0.00378	-0.22872

Condition **LC17=1.2DL+WL0+1.6LLa1**

2	1.79550	-0.12906	-1.00221	0.03866	0.04564	0.03361
10	-3.48167	-0.52717	-2.01505	0.10722	-0.01118	-0.30745
14	-0.01571	-0.15817	2.42662	-0.06433	0.02365	0.02439
49	3.77984	2.90576	2.24765	0.15078	-0.05908	-0.17597
53	-2.08526	1.65314	1.21527	0.05053	0.01942	0.05927
55	0.00730	1.74960	-2.56529	-0.08638	-0.00119	-0.00079
237	0.00000	0.19143	0.00600	0.00300	0.00000	0.00000

238	0.00000	0.10263	0.00400	0.00200	0.00000	0.00000
239	0.00000	0.18903	0.00400	0.00200	0.00000	0.00000
SUM	0.00000	5.97720	0.32100	0.20348	0.01726	-0.36694

Condition **LC18=1.2DL+WL30+1.6LLa1**

2	2.18595	-0.18232	-1.25194	0.04924	0.00770	0.06665
10	-3.34317	-0.51121	-2.00706	0.07068	0.07601	-0.31596
14	0.05550	-0.12589	2.09952	-0.04498	-0.08513	-0.00458
49	3.71707	2.86328	2.21694	0.13918	-0.04603	-0.17525
53	-2.30400	1.80880	1.33693	0.05182	0.00556	0.08168
55	0.01366	1.64144	-2.39439	-0.07446	-0.03202	-0.02332
237	0.00500	0.19143	0.00000	0.00000	0.00000	-0.00250
238	0.00200	0.10263	0.00000	0.00000	0.00000	-0.00100
239	0.00200	0.18903	0.00000	0.00000	0.00000	-0.00100
SUM	0.33400	5.97720	0.00000	0.19148	-0.07391	-0.37529

Condition **LC19=1.2DL-WL0+1.6LLa1**

2	2.02950	-0.16689	-1.24838	0.00579	-0.09334	0.08034
10	-3.70497	-0.54917	-2.24637	0.07830	0.12185	-0.33797
14	-0.01307	-0.08956	1.77290	-0.02228	0.02051	0.03153
49	3.91562	3.00604	2.32229	0.13453	-0.02662	-0.19541
53	-2.24025	1.76528	1.30669	0.03988	-0.00850	0.08188
55	0.01317	1.52841	-2.21413	-0.06082	-0.00725	-0.00517
237	0.00000	0.19143	-0.00600	-0.00300	0.00000	0.00000
238	0.00000	0.10263	-0.00400	-0.00200	0.00000	0.00000
239	0.00000	0.18903	-0.00400	-0.00200	0.00000	0.00000
SUM	0.00000	5.97720	-0.32100	0.16839	0.00666	-0.34480

Condition **LC20=1.2DL-WL30+1.6LLa1**

2	1.63903	-0.11362	-0.99862	-0.00481	-0.05541	0.04730
10	-3.84347	-0.56511	-2.25434	0.11484	0.03467	-0.32945
14	-0.08429	-0.12186	2.10002	-0.04164	0.12929	0.06050
49	3.97839	3.04851	2.35298	0.14611	-0.03966	-0.19614
53	-2.02149	1.60961	1.18501	0.03859	0.00536	0.05948
55	0.00682	1.63658	-2.38504	-0.07275	0.02357	0.01735
237	-0.00500	0.19143	0.00000	0.00000	0.00000	0.00250
238	-0.00200	0.10263	0.00000	0.00000	0.00000	0.00100
239	-0.00200	0.18903	0.00000	0.00000	0.00000	0.00100
SUM	-0.33400	5.97720	0.00000	0.18035	0.09782	-0.33645

Condition **LC21=1.2DL+WL0+1.6LLa2**

2	1.99956	-0.14061	-1.14430	-0.00116	0.02583	0.05870
10	-2.97814	-0.34689	-1.78798	-0.05919	0.04902	-0.24320
14	-0.00234	-0.16683	2.44639	-0.07138	0.00691	0.00603
49	3.25525	2.58070	2.01725	0.14445	-0.10942	-0.09288
53	-2.27122	1.81199	1.35494	0.06854	0.04394	0.05527
55	-0.00312	1.75573	-2.57930	-0.08989	0.00555	0.00401
237	0.00000	0.19143	0.00600	0.00300	0.00000	0.00000
238	0.00000	0.10263	0.00400	0.00200	0.00000	0.00000
239	0.00000	0.18903	0.00400	0.00200	0.00000	0.00000
SUM	0.00000	5.97720	0.32100	-0.00163	0.02182	-0.21207

Condition **LC22=1.2DL+WL30+1.6LLa2**

2	2.39000	-0.19384	-1.39405	0.00940	-0.01213	0.09173
10	-2.83961	-0.33092	-1.77996	-0.09577	0.13623	-0.25171
14	0.06888	-0.13454	2.11921	-0.05204	-0.10186	-0.02295
49	3.19246	2.53822	1.98653	0.13286	-0.09637	-0.09215
53	-2.48996	1.96765	1.47661	0.06983	0.03009	0.07767
55	0.00323	1.64753	-2.40834	-0.07797	-0.02527	-0.01850
237	0.00500	0.19143	0.00000	0.00000	0.00000	-0.00250
238	0.00200	0.10263	0.00000	0.00000	0.00000	-0.00100
239	0.00200	0.18903	0.00000	0.00000	0.00000	-0.00100
SUM	0.33400	5.97720	0.00000	-0.01369	-0.06931	-0.22042

Condition **LC23=1.2DL-WL0+1.6LLa2**

2	2.23355	-0.17841	-1.39054	-0.03408	-0.11320	0.10543
10	-3.20145	-0.36890	-2.01929	-0.08815	0.18207	-0.27376
14	0.00029	-0.09821	1.79255	-0.02933	0.00380	0.01316
49	3.39107	2.68101	2.09191	0.12821	-0.07698	-0.11230
53	-2.42620	1.92414	1.44640	0.05790	0.01606	0.07786
55	0.00274	1.53448	-2.22803	-0.06433	-0.00050	-0.00035
237	0.00000	0.19143	-0.00600	-0.00300	0.00000	0.00000
238	0.00000	0.10263	-0.00400	-0.00200	0.00000	0.00000
239	0.00000	0.18903	-0.00400	-0.00200	0.00000	0.00000
SUM	0.00000	5.97720	-0.32100	-0.03678	0.01125	-0.18995

Condition **LC24=1.2DL-WL30+1.6LLa2**

2	1.84310	-0.12517	-1.14076	-0.04465	-0.07525	0.07240
10	-3.33998	-0.38486	-2.02729	-0.05157	0.09486	-0.26524
14	-0.07092	-0.13051	2.11973	-0.04869	0.11257	0.04215
49	3.45385	2.72349	2.12262	0.13980	-0.09002	-0.11302
53	-2.20745	1.76847	1.32471	0.05660	0.02989	0.05547
55	-0.00360	1.64268	-2.39900	-0.07626	0.03032	0.02216
237	-0.00500	0.19143	0.00000	0.00000	0.00000	0.00250
238	-0.00200	0.10263	0.00000	0.00000	0.00000	0.00100
239	-0.00200	0.18903	0.00000	0.00000	0.00000	0.00100
SUM	-0.33400	5.97720	0.00000	-0.02477	0.10237	-0.18159

Condition **LC25=1.2DL+WL0+1.6LLa3**

2	2.56007	-0.15357	-1.55754	-0.14783	-0.05848	0.12840
10	-2.18525	-0.20444	-1.30918	-0.07467	0.02772	-0.14570
14	-0.00644	-0.17417	2.46290	-0.07735	0.00319	0.02425
49	2.44412	1.96737	1.51809	0.10045	-0.08809	-0.04727
53	-2.82176	2.29736	1.78478	0.12167	0.12289	0.03409
55	0.00925	1.76155	-2.59205	-0.09288	-0.00950	-0.00682
237	0.00000	0.19143	0.00600	0.00300	0.00000	0.00000
238	0.00000	0.10263	0.00400	0.00200	0.00000	0.00000
239	0.00000	0.18903	0.00400	0.00200	0.00000	0.00000
SUM	0.00000	5.97720	0.32100	-0.16362	-0.00226	-0.01306

Condition **LC26=1.2DL+WL30+1.6LLa3**

2	2.95045	-0.20675	-1.80728	-0.13734	-0.09644	0.16141
10	-2.04672	-0.18846	-1.30115	-0.11126	0.11496	-0.15420
14	0.06479	-0.14190	2.13578	-0.05802	-0.10563	-0.00473
49	2.38131	1.92484	1.48728	0.08883	-0.07500	-0.04657
53	-3.04044	2.45300	1.90649	0.12300	0.10910	0.05648
55	0.01562	1.65337	-2.42112	-0.08096	-0.04035	-0.02936
237	0.00500	0.19143	0.00000	0.00000	0.00000	-0.00250

238	0.00200	0.10263	0.00000	0.00000	0.00000	-0.00100
239	0.00200	0.18903	0.00000	0.00000	0.00000	-0.00100
SUM	0.33400	5.97720	0.00000	-0.17575	-0.09336	-0.02147

Condition **LC27=1.2DL-WL0+1.6LLa3**

2	2.79399	-0.19131	-1.80380	-0.18086	-0.19751	0.17514
10	-2.40872	-0.22650	-1.54053	-0.10361	0.16080	-0.17631
14	-0.00379	-0.10557	1.80909	-0.03531	-0.00001	0.03141
49	2.58001	2.06768	1.59266	0.08416	-0.05559	-0.06671
53	-2.97665	2.40951	1.87637	0.11111	0.09513	0.05664
55	0.01516	1.54029	-2.24079	-0.06732	-0.01561	-0.01124
237	0.00000	0.19143	-0.00600	-0.00300	0.00000	0.00000
238	0.00000	0.10263	-0.00400	-0.00200	0.00000	0.00000
239	0.00000	0.18903	-0.00400	-0.00200	0.00000	0.00000
SUM	0.00000	5.97720	-0.32100	-0.19884	-0.01280	0.00893

Condition **LC28=1.2DL-WL30+1.6LLa3**

2	2.40361	-0.13812	-1.55403	-0.19137	-0.15956	0.14212
10	-2.54724	-0.24248	-1.54856	-0.06702	0.07357	-0.16780
14	-0.07502	-0.13785	2.13622	-0.05466	0.10881	0.06039
49	2.64282	2.11021	1.62346	0.09577	-0.06867	-0.06742
53	-2.75796	2.25386	1.75463	0.10977	0.10891	0.03426
55	0.00880	1.64848	-2.41173	-0.07924	0.01523	0.01130
237	-0.00500	0.19143	0.00000	0.00000	0.00000	0.00250
238	-0.00200	0.10263	0.00000	0.00000	0.00000	0.00100
239	-0.00200	0.18903	0.00000	0.00000	0.00000	0.00100
SUM	-0.33400	5.97720	0.00000	-0.18675	0.07830	0.01734

Condition **LC29=1.2DL+WL0+1.6LLa4**

2	3.55612	-0.45550	-2.04914	0.09518	0.02016	0.24891
10	-1.71090	-0.19435	-0.96498	0.04508	-0.03390	-0.08940
14	0.01179	-0.15798	2.42621	-0.06419	-0.02236	0.00269
49	1.99958	1.57554	1.17177	0.05644	-0.02234	-0.06536
53	-3.85388	2.97757	2.28722	0.14469	0.05797	0.16699
55	-0.00270	1.74882	-2.56408	-0.08630	-0.00379	-0.00279
237	0.00000	0.19143	0.00600	0.00300	0.00000	0.00000
238	0.00000	0.10263	0.00400	0.00200	0.00000	0.00000
239	0.00000	0.18903	0.00400	0.00200	0.00000	0.00000
SUM	0.00000	5.97720	0.32100	0.19791	-0.00426	0.26105

Condition **LC30=1.2DL+WL30+1.6LLa4**

2	3.94634	-0.50861	-2.29883	0.10566	-0.01783	0.28183
10	-1.57237	-0.17837	-0.95687	0.00854	0.05331	-0.09788
14	0.08300	-0.12572	2.09918	-0.04487	-0.13117	-0.02626
49	1.93679	1.53299	1.14090	0.04480	-0.00921	-0.06468
53	-4.07243	3.13312	2.40886	0.14602	0.04415	0.18941
55	0.00368	1.64069	-2.39324	-0.07439	-0.03465	-0.02534
237	0.00500	0.19143	0.00000	0.00000	0.00000	-0.00250
238	0.00200	0.10263	0.00000	0.00000	0.00000	-0.00100
239	0.00200	0.18903	0.00000	0.00000	0.00000	-0.00100
SUM	0.33400	5.97720	0.00000	0.18577	-0.09541	0.25258

Condition **LC31=1.2DL-WL0+1.6LLa4**

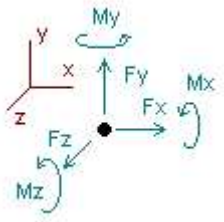
2	3.78993	-0.49322	-2.29541	0.06221	-0.11887	0.29557
10	-1.93439	-0.21647	-1.19621	0.01624	0.09911	-0.12000
14	0.01443	-0.08939	1.77256	-0.02216	-0.02556	0.00985
49	2.13552	1.67584	1.24625	0.04011	0.01024	-0.08483
53	-4.00870	3.08967	2.37879	0.13413	0.03018	0.18956
55	0.00321	1.52767	-2.21298	-0.06075	-0.00991	-0.00721
237	0.00000	0.19143	-0.00600	-0.00300	0.00000	0.00000
238	0.00000	0.10263	-0.00400	-0.00200	0.00000	0.00000
239	0.00000	0.18903	-0.00400	-0.00200	0.00000	0.00000
SUM	0.00000	5.97720	-0.32100	0.16279	-0.01480	0.28294

Condition **LC32=1.2DL-WL30+1.6LLa4**

2	3.39970	-0.44009	-2.04570	0.05172	-0.08089	0.26264
10	-2.07293	-0.23244	-1.20430	0.05279	0.01192	-0.11151
14	-0.05679	-0.12166	2.09960	-0.04149	0.08325	0.03882
49	2.19831	1.71838	1.27711	0.05174	-0.00288	-0.08552
53	-3.79013	2.93410	2.25713	0.13280	0.04399	0.16715
55	-0.00316	1.63581	-2.38384	-0.07266	0.02095	0.01534
237	-0.00500	0.19143	0.00000	0.00000	0.00000	0.00250
238	-0.00200	0.10263	0.00000	0.00000	0.00000	0.00100
239	-0.00200	0.18903	0.00000	0.00000	0.00000	0.00100
SUM	-0.33400	5.97720	0.00000	0.17489	0.07633	0.29141

Envelope for nodal reactions

Note.- **Ic** is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

LC1=1.2DL
LC2=1.2DL+W0
LC3=1.2DL+W30
LC4=1.2DL-W0
LC5=1.2DL-W30
LC6=0.9DL+W0
LC7=0.9DL+W30
LC8=0.9DL-W0
LC9=0.9DL-W30
LC10=1.2DL+Di+Wi0
LC11=1.2DL+Di+Wi30
LC12=1.2DL+Di-Wi0
LC13=1.2DL+Di-Wi30
LC14=1.4DL
LC15=1.2DL+1.6LL1
LC16=1.2DL+1.6LL2
LC17=1.2DL+WL0+1.6LLa1

LC18=1.2DL+WL30+1.6LLa1
LC19=1.2DL-WL0+1.6LLa1
LC20=1.2DL-WL30+1.6LLa1
LC21=1.2DL+WL0+1.6LLa2
LC22=1.2DL+WL30+1.6LLa2
LC23=1.2DL-WL0+1.6LLa2
LC24=1.2DL-WL30+1.6LLa2
LC25=1.2DL+WL0+1.6LLa3
LC26=1.2DL+WL30+1.6LLa3
LC27=1.2DL-WL0+1.6LLa3
LC28=1.2DL-WL30+1.6LLa3
LC29=1.2DL+WL0+1.6LLa4
LC30=1.2DL+WL30+1.6LLa4
LC31=1.2DL-WL0+1.6LLa4
LC32=1.2DL-WL30+1.6LLa4

		Forces						Moments					
Node		**Fx** [Kip]	**lc**	**Fy** [Kip]	**lc**	**Fz** [Kip]	**lc**	**Mx** [Kip*ft]	**lc**	**My** [Kip*ft]	**lc**	**Mz** [Kip*ft]	**lc**
2	Max	8.030	LC3	0.593	LC9	1.991	LC6	0.64502	LC3	1.74235	LC2	0.51239	LC4
	Min	-4.523	LC9	-0.859	LC3	-3.979	LC4	-0.51321	LC9	-1.69490	LC8	-0.46087	LC6
10	Max	4.022	LC7	0.385	LC7	1.876	LC7	0.52810	LC5	1.44833	LC8	0.25905	LC6
	Min	-7.384	LC5	-0.757	LC5	-3.777	LC5	-0.37252	LC7	-1.48603	LC2	-0.39498	LC4
14	Max	1.573	LC3	0.583	LC8	9.732	LC2	0.37951	LC8	2.42099	LC5	0.68467	LC5
	Min	-1.576	LC5	-0.860	LC2	-5.427	LC8	-0.48685	LC2	-2.42002	LC3	-0.65247	LC7
49	Max	4.751	LC5	3.541	LC5	2.601	LC5	0.24101	LC2	0.41036	LC4	0.15204	LC6
	Min	-1.030	LC7	-0.648	LC7	-0.505	LC7	-0.17956	LC8	-0.37905	LC6	-0.30470	LC4
53	Max	1.207	LC9	3.776	LC3	2.829	LC3	0.23408	LC2	0.41559	LC6	0.35900	LC4
	Min	-5.079	LC3	-0.745	LC9	-0.647	LC9	-0.17784	LC8	-0.44587	LC4	-0.21644	LC6
55	Max	0.166	LC7	4.120	LC2	1.590	LC8	0.18697	LC8	0.68961	LC9	0.50389	LC9
	Min	-0.157	LC9	-0.907	LC8	-6.296	LC2	-0.34443	LC2	-0.69917	LC3	-0.51076	LC3
237	Max	0.120	LC3	0.263	LC10	0.154	LC2	0.03701	LC2	0.00000	LC1	0.02001	LC5
	Min	-0.120	LC5	0.144	LC6	-0.154	LC4	-0.03701	LC4	0.00000	LC1	-0.02001	LC3
238	Max	0.081	LC7	0.135	LC11	0.102	LC2	0.01101	LC2	0.00000	LC2	0.00450	LC13
	Min	-0.081	LC5	0.077	LC9	-0.102	LC4	-0.01101	LC4	0.00000	LC4	-0.00450	LC11
239	Max	0.081	LC3	0.253	LC13	0.102	LC2	0.01101	LC2	0.00000	LC4	0.00450	LC13
	Min	-0.081	LC9	0.142	LC7	-0.102	LC4	-0.01101	LC4	0.00000	LC2	-0.00450	LC11

HUDSON
Design Group LLC

Connection Check

Date: 3/14/2022
Project Name: BRIDGEPORT EVERGREEN ST
Project No.: CT5100
Designed By: CL **Checked By:** MSC

HUDSON Design Group LLC

CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A36 5/8" Threaded Rod

Allowable Tensile Load =

F_{Tall} = 6673 lbs.

Allowable Shear Load =

F_{Vall} = 4004 lbs.

TENSILE FORCES

Reaction **F =** 9732 lbs. (See Bentley Output)

SHEAR FORCES

Reactions in X direction: 1573 lbs. (See Bentley Output)
Reactions in Y direction: 860 lbs. (See Bentley Output)

Resultant: 1793 lbs.

No. of Supports = 1
No. of Bolts / Support = 4

Tension Design Load /Bolts =

f_t = 2433.00 lbs. < 6673 lbs. **Therefore, OK !**

Shear Design Load / Bolts=

f_v = 448.19 lbs. < 4004 lbs. **Therefore, OK !**

CHECK COMBINED TENSION AND SHEAR

f_t / F_T	+	f_v / F_V	≤	1.0			
0.365	+	0.112	=	0.477	<	1.0	**Therefore, OK !**

220 EVERGREEN ST

Location	220 EVERGREEN ST	**Mblu**	53/ 1527/ 2/ /
Acct#	R--0048990	**Owner**	CHAPIN & BANGS COMPANY
Assessment	$215,420	**Appraisal**	$307,740
PID	13578	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$2,250	$305,490	$307,740
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$1,580	$213,840	$215,420

Owner of Record

Owner	CHAPIN & BANGS COMPANY	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	PO BOX 1117 BRIDGEPORT, CT 06601	**Book & Page**	2291/0054
		Sale Date	05/12/1987
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
CHAPIN & BANGS COMPANY	$0		2291/0054		05/12/1987

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes

Field	Description
Style	Vacant Land
Model	
Grade:	
Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	
Roof Structure:	
Roof Cover:	
Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs:	
Total Rooms	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplaces	
Fin Bsmt Area	
Fin Bsmt Quality	
Num Park	
Bsmt Garages	
.	

Building Photo

(http://images.vgsi.com/photos2/BridgeportCTPhotos//\0113\IMG_0024_11

Building Layout

(ParcelSketch.ashx?pid=13578&bid=13578)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code	399	**Size (Acres)**	1.00
Description	Vac Ind Lnd	**Frontage**	0
Zone	ILI	**Depth**	0
Neighborhood	IND	**Assessed Value**	$213,840
Alt Land Appr	No	**Appraised Value**	$305,490
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN2	Fence, WD	4	4 ft	150.00 LF	$2,250	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$2,250	$305,490	$307,740
2020	$2,250	$305,490	$307,740
2019	$2,250	$350,110	$352,360

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$1,580	$213,840	$215,420
2020	$1,580	$213,840	$215,420
2019	$1,580	$245,072	$246,652

Search...

Parcels (1)

☆ **Site Address: 220 EVERGREEN ST**

CHAPIN & BANGS COMPANY
Field Card
Zoom to Feature
Buffer Feature

Displaying 1 - 1 (Total: 1)

Page 1 of 1

Home Layers Parcels (1)

Basemaps

0 100 200ft

DOCKET NO. 464 – Blue Sky Towers, LLC and New Cingular Wireless PCS, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at Bridgeport Tax Assessor Map 53, Block 1527, Lot 2, 220 Evergreen Street, Bridgeport, Connecticut.	}	Connecticut
	}	Siting
	}	Council
		April 14, 2016

Decision and Order

Pursuant to Connecticut General Statutes §16-50p and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Blue Sky Towers, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at the proposed site located at 220 Evergreen Street, Bridgeport, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole at a height of 135 feet above ground level to provide the proposed wireless services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC (AT&T) and other entities, both public and private. The height of the tower may be extended after the date of this Decision and Order pursuant to regulations of the Federal Communications Commission.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Bridgeport (City) for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) final site plan(s) for development of the facility to include specifications for the tower, tower foundation, antennas, equipment compound including, but not limited to, fence with less than two inch mesh, radio equipment, access road, utility line, transformer, emergency backup generator, space for a future shared generator, flood elevation mitigation plan for equipment, and landscaping that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code and taking into account inundation risk;
    b) the tower designed with a yield point to ensure that the tower setback radius remains within the boundaries of the subject property;
    c) location of emergency generator and equipment shelter with air conditioning units and evidence of compliance with noise regulations;
    d) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; and
    e) hours of construction.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the City of Bridgeport.

8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.

9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated December 3, 2015, and notice of issuance published in the Connecticut Post.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

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12 INDUSTRIAL WAY
SALEM NH 03079-2837

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C013

SHIP TO: HON. JOSEPH P GANIM, MAYOR
CITY OF BRIDGEPORT
999 BROAD ST
BRIDGEPORT CT 06604-4320

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HOLLIS M REDDING
SAI GROUP
12 INDUSTRIAL WAY
SALEM NH 03079-2837

Expected Delivery Date: 04/04/22
Ref#: CT5100
0006

C031

SHIP TO: MR. THOMAS F GIL DIRECTOR OF OPED
CITY OF BRIDGEPORT
45 LYON TER
210
BRIDGEPORT CT 06604-4023

USPS TRACKING #

9405 5036 9930 0209 3494 59

Electronic Rate Approved #038555749

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HOLLIS M REDDING
SAI GROUP
12 INDUSTRIAL WAY
SALEM NH 03079-2837

Expected Delivery Date: 04/02/22
Ref#: CT5100
0006

C046

SHIP TO:

AMERICAN TOWER CORP
10 PRESIDENTIAL WAY
WOBURN MA 01801-1053

USPS TRACKING #

9405 5036 9930 0209 3494 66

Electronic Rate Approved #038555749

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PRIORITY MAIL 2-DAY™

HOLLIS M REDDING
SAI GROUP
12 INDUSTRIAL WAY
SALEM NH 03079-2837

Expected Delivery Date: 04/04/22
Ref#: CT5100
0006

B019

SHIP TO:

CHAPIN & BANGS COMPANY
PO BOX 1117
BRIDGEPORT CT 06601-1117

USPS TRACKING #

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HOLLIS M REDDING
SAI GROUP
12 INDUSTRIAL WAY
SALEM NH 03079-2837

Expected Delivery Date: 04/04/22
Ref#: CT5100
0006

C006

SHIP TO: MELANIE BACHMAN EXECUTIVE DIRECTOR
CT SITING COUNCIL
10 FRANKLIN SQ
NEW BRITAIN CT 06051-2655

USPS TRACKING #

9405 5036 9930 0209 3494 97

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From: auto-reply@usps.com
Sent: Friday, April 1, 2022 2:36 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Monday, April 4, 2022 arriving by 9:00pm 9405503699300209349442

UNITED STATES POSTAL SERVICE®

Hello **HOLLIS M REDDING**,

Your item was accepted at 12:54 pm on April 1, 2022 in MERIDEN, CT 06450.

Tracking Number: **9405503699300209349442**

Expected Delivery By

Mon
4
Apr

By 9:00pm

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From: auto-reply@usps.com
Sent: Friday, April 1, 2022 2:36 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Monday, April 4, 2022 arriving by 9:00pm 9405503699300209349459

UNITED STATES POSTAL SERVICE®

Hello **HOLLIS M REDDING**,

Your item was accepted at 12:54 pm on April 1, 2022 in MERIDEN, CT 06450.

Tracking Number: **9405503699300209349459**

Expected Delivery By

Mon
4
Apr

By 9:00pm

Tracking & Delivery Options

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Sent: Friday, April 1, 2022 2:36 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Monday, April 4, 2022 arriving by 9:00pm 9405503699300209349480

UNITED STATES POSTAL SERVICE®

Hello **HOLLIS M REDDING**,

Your item was accepted at 12:54 pm on April 1, 2022 in MERIDEN, CT 06450.

Tracking Number: **9405503699300209349480**

Expected Delivery By

Mon
4
Apr

By 9:00pm

Tracking & Delivery Options

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From: auto-reply@usps.com
Sent: Friday, April 1, 2022 2:36 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Monday, April 4, 2022 arriving by 9:00pm 9405503699300209349466

UNITED STATES POSTAL SERVICE®

Hello **HOLLIS M REDDING**,

Your item was accepted at 12:54 pm on April 1, 2022 in MERIDEN, CT 06450.

Tracking Number: **9405503699300209349466**

Expected Delivery By

Mon
4
Apr

By 9:00pm

Tracking & Delivery Options

My Account

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Hollis Redding CSC Copy

From: auto-reply@usps.com
Sent: Friday, April 1, 2022 2:35 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Saturday, April 2, 2022 arriving by 9:00pm 9405503699300209349497

UNITED STATES POSTAL SERVICE®

Hello **HOLLIS M REDDING**,

Your item was accepted at 12:54 pm on April 1, 2022 in MERIDEN, CT 06450.

Tracking Number: **9405503699300209349497**

Expected Delivery By

Sat
2
Apr

By 9:00pm

Tracking & Delivery Options

My Account

Visit USPS Tracking® to check the most up-to-date status of your package. Sign up for Informed Delivery® to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your USPS.com account.